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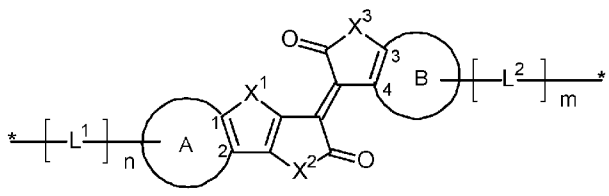
(54) Title: THIENOTHIOPHENE-ISOINDIGO



(1)

(57) Abstract: Disclosed are polymers comprising at least one unit of formula (1), a process for their preparation, intermediates and electronic devices comprising these polymers as semiconducting material.

Thienothiophene-Isoindigo

Description

The present invention relates to polymers, to a process for the preparation of these polymers, to intermediates, to electronic devices comprising these polymers, as well as to the use of these polymers as semiconducting material.

Organic semiconducting materials can be used in electronic devices such as organic photovoltaic devices (OPVs), organic field-effect transistors (OFETs), organic light emitting diodes (OLEDs), organic photodiodes (OPDs) and organic electrochromic devices (ECDs).

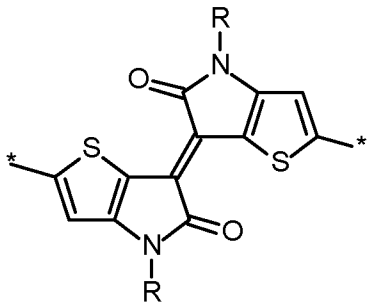
It is desirable that the organic semiconducting materials are compatible with liquid processing techniques such as spin coating as liquid processing techniques are convenient from the point of processability, and thus allow the production of low cost organic semiconducting material-based electronic devices. In addition, liquid processing techniques are also compatible with plastic substrates, and thus allow the production of light weight and mechanically flexible organic semiconducting material-based electronic devices.

For application in organic photovoltaic devices (OPVs), organic field-effect transistors (OFETs), and organic photodiodes (OPDs), it is further desirable that the organic semiconducting materials show high charge carrier mobility.

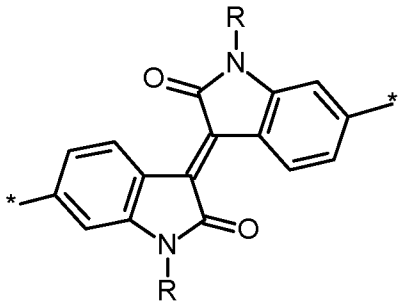
For application in organic photovoltaic devices (OPVs) and organic photodiodes (OPDs), the organic semiconducting materials should also show a strong absorption of the visible light and of the near infra-red light.

The use of iso-indigo-type compounds as semiconducting materials in electronic devices is known in the art.

WO 2009/053291 describes semiconducting polymers comprising the following units



and

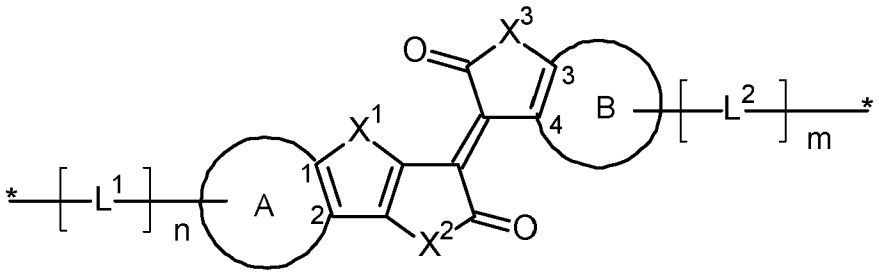


and organic field effect transistors comprising these polymers.

It was the object of the present invention to provide organic semiconducting materials.

This object is solved by the polymers of claim 1, the process of claim 11, the intermediates of claim 12, and the electronic device of claim 13 und the use of claim 15.

The polymers of the present invention comprise at least one unit of formula

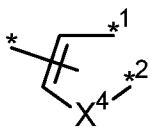


(**1**)

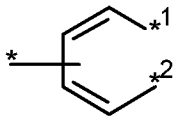
wherein

X^1, X^2 and X^3 are independently from each other O, S or NR^1,

A is selected from the group consisting of

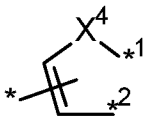


A1



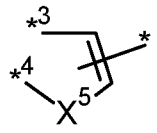
A2

and

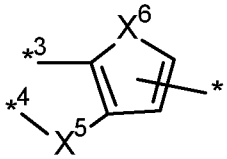


A3

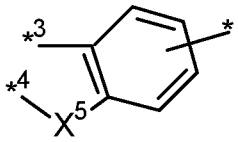
B is selected from the group consisting of



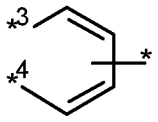
B1



B2



B3



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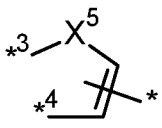
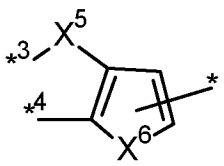
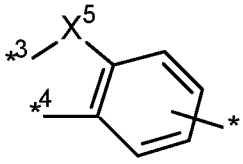


B5



B6

and



B7

wherein

X^4, X^5 and X^6 are independently from each other O, S or NR^1,

A1, A2, A3, B1, B2, B3, B4, B5, B6 or B7 can be substituted with one to three substituents R^2,

R^1 is at each occurrence selected from the group consisting of H, C_{1-100}-alkyl, C_{2-100}-alkenyl, C_{2-100}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl, a 5 to 20 membered heteroaryl, C(O)-C_{1-100}-alkyl, C(O)-C_{5-12}-cycloalkyl and C(O)-OC_{1-100}-alkyl,
wherein

C_{1-100}-alkyl, C_{2-100}-alkenyl and C_{2-100}-alkynyl can be substituted with one to fourty substituents independently selected from the group consisting of C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^a, OC(O)-R^a, C(O)-OR^a, C(O)-R^a, NR^aR^b, NR^a-C(O)R^b, C(O)-NR^aR^b, N[C(O)R^a][C(O)R^b], SR^a, Si(R^{Sia})(R^{Sib})(R^{Sic}), -O-Si(R^{Sia})(R^{Sib})(R^{Sic}), halogen, CN, and NO_2; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-100}-alkyl, C_{2-100}-alkenyl and C_{2-100}-alkynyl can be replaced by O or S,

C_{5-12}-cycloalkyl can be substituted with one to six substituents independently selected from the group consisting of C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^a, OC(O)-R^a, C(O)-OR^a, C(O)-R^a, NR^aR^b, NR^a-C(O)R^b, C(O)-NR^aR^b, N[C(O)R^a][C(O)R^b], SR^a, Si(R^{Sia})(R^{Sib})(R^{Sic}), -O-Si(R^{Sia})(R^{Sib})(R^{Sic}), halogen, CN, and NO_2; and one or two CH_2-groups, but not adjacent CH_2-groups, of C_{5-12}-cycloalkyl can be replaced by O, S, OC(O), CO, NR^a or NR^a-CO,

C_{6-18}-aryl and 5 to 20 membered heteroaryl can be substituted with one to six substituents independently selected from the group consisting of C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^a, OC(O)-R^a, C(O)-OR^a, C(O)-R^a, NR^aR^b, NR^a-C(O)R^b, C(O)-NR^aR^b, N[C(O)R^a][C(O)R^b], SR^a, Si(R^{Sia})(R^{Sib})(R^{Sic}), -O-Si(R^{Sia})(R^{Sib})(R^{Sic}), halogen, CN, and NO_2,

wherein
R^a and R^b are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl and 5 to 14 membered heteroaryl,

R^{Sia}, R^{Sib} and R^{Sic} are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, O-C_{1-60}-alkyl, O-C_{2-60}-alkenyl, O-C_{2-60}-alkynyl, O-C_{5-8}-cycloalkyl, O-C_{6-14}-aryl, O-5 to 14 membered heteroaryl, -[O-Si$R^{Sid}R^{Sie}$]$_o$-R^{Sif}, NR^5R^6, halogen and O-C(O)-R^5,
wherein
o is an integer from 1 to 50,

R^{Sid}, R^{Sie}, R^{Sif} are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl,

O-C_{1-60}-alkyl, O-C_{2-60}-alkenyl, O-C_{2-60}-alkynyl, O-C_{5-8}-cycloalkyl, O-C_{6-14}-aryl, O-5 to 14 membered heteroaryl, -[O-$SiR^{Sig}R^{Sih}$]$_p$-R^{Sii}, $NR^{50}R^{60}$, halogen and O-C(O)-R^{50};

wherein

p is an integer from 1 to 50,

R^{Sig} R^{Sih}, R^{Sii} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, O-C_{1-30}-alkyl, O-C_{2-30}-alkenyl, O-C_{2-30}-alkynyl, O-C_{5-6}-cycloalkyl, O-C_{6-10}-aryl, O-5 to 10 membered heteroaryl, O-$Si(CH_3)_3$, $NR^{500}R^{600}$, halogen and O-C(O)-R^{500},

R^5, R^6, R^{50}, R^{60}, R^{500} and R^{600} are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, and 5 to 14 membered heteroaryl,

C_{1-60}-alkyl, C_{2-60}-alkenyl and C_{2-60}-alkynyl can be substituted with one to twenty substituents selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, OR^c, OC(O)-R^c, C(O)-OR^c, C(O)-R^c, NR^cR^d, NR^c-C(O)R^d, C(O)-NR^cR^d, N[C(O)R^c][C(O)R^d], SR^c, $Si(R^{Sij})(R^{Sik})(R^{Sil})$, -O-$Si(R^{Sij})(R^{Sik})(R^{Sil})$, halogen, CN, and NO_2; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-60}-alkyl, C_{2-60}-alkenyl and C_{2-60}-alkynyl can be replaced by O or S,

C_{5-8}-cycloalkyl can be substituted with one to five substituents selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, OR^c, OC(O)-R^c, C(O)-OR^c, C(O)-R^c, NR^cR^d, NR^c-C(O)R^d, C(O)-NR^cR^d, N[C(O)R^c][C(O)R^d], SR^c, $Si(R^{Sij})(R^{Sik})(R^{Sil})$, -O-$Si(R^{Sij})(R^{Sik})(R^{Sil})$, halogen, CN, and NO_2; and one or two CH_2-groups, but not adjacent CH_2-groups, of C_{5-8}-cycloalkyl can be replaced by O, S, OC(O), CO, NR^c or NR^c-CO,

C_{6-14}-aryl and 5 to 14 membered heteroaryl can be substituted with one to five substituents independently selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, OR^c, OC(O)-R^c, C(O)-OR^c, C(O)-R^c, NR^cR^d, NR^c-C(O)R^d, C(O)-NR^cR^d, N[C(O)R^c][C(O)R^d], SR^c, $Si(R^{Sij})(R^{Sik})(R^{Sil})$, -O-$Si(R^{Sij})(R^{Sik})(R^{Sil})$, halogen, CN and NO_2;

wherein

R^c and R^d are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl,

R^{Sij}, R^{Sik} and R^{Sil} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, O-C_{1-30}-alkyl, O-C_{2-30}-alkenyl, O-C_{2-30}-alkynyl, O-C_{5-6}-cycloalkyl,

O-C_{6-10}-aryl, O-5 to 10 membered heteroaryl, -[O-$SiR^{Sim}R^{Sin}$]$_q$-R^{Sio}, NR^7R^8, halogen, and O-C(O)-R^7,

wherein

q is an integer from 1 to 50,

R^{Sim}, R^{Sin}, R^{Sio} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, O-C_{1-30}-alkyl, O-C_{2-30}-alkenyl, O-C_{2-30}-alkynyl, O-C_{5-6}-cycloalkyl, O-C_{6-10}-aryl, O-5 to 10 membered heteroaryl, -[O-$SiR^{Sip}R^{Siq}$]$_r$-R^{Sir}, $NR^{70}R^{80}$, halogen, and O-C(O)-R^{70};

wherein

r is an integer from 1 to 50,

R^{Sip}, R^{Siq}, R^{Sir} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, O-C_{1-30}-alkyl, O-C_{2-30}-alkenyl, O-C_{2-30}-alkynyl, O-C_{5-6}-cycloalkyl, O-C_{6-10}-aryl, O-5 to 10 membered heteroaryl, O-$Si(CH_3)_3$, $NR^{700}R^{800}$, halogen and O-C(O)-R^{700},

R^7, R^8, R^{70}, R^{80}, R^{700} and R^{800} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, and 5 to 10 membered heteroaryl,

C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be substituted with one to ten substituents selected from the group consisting of halogen, CN and NO_2,

R^2 is at each occurrence selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl, 5 to 20 membered heteroaryl, OR^{21}, OC(O)-R^{21}, C(O)-OR^{21}, C(O)-R^{21}, $NR^{21}R^{22}$, NR^{21}-C(O)R^{22}, C(O)-$NR^{21}R^{22}$, N[C(O)R^{21}][C(O)R^{22}], SR^{21}, halogen, CN, $SiR^{Sis}R^{Sit}R^{Siu}$ and OH,

wherein

R^{21} and R^{22} and are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl and 5 to 20 membered heteroaryl, and

C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be substituted with one to ten substituents independently selected from the group consisting of C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^e, OC(O)-R^e, C(O)-OR^e, C(O)-R^e, NR^eR^f, NR^e-C(O)R^f, C(O)-NR^eR^f, N[C(O)R^e][C(O)R^f], SR^e, halogen, CN, $SiR^{Sis}R^{Sit}R^{Siu}$ and NO_2; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be replaced by O or S,

C_{5-12}-cycloalkyl can be substituted with one to six substituents independently selected from the group consisting of C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^e, $OC(O)-R^e$, $C(O)-OR^e$, $C(O)-R^e$, NR^eR^f, $NR^e-C(O)R^f$, $C(O)-NR^eR^f$, $N[C(O)R^e][C(O)R^f]$, SR^e, halogen, CN, $SiR^{Sis}R^{Sit}R^{Siu}$ and NO_2; and one or two CH_2-groups, but not adjacent CH_2-groups, of C_{5-12}-cycloalkyl can be replaced by O, S, OC(O), CO, NR^e or NR^e-CO,

C_{6-18}-aryl and 5 to 20 membered heteroaryl can be substituted with one to six substituents independently selected from the group consisting of C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^e, $OC(O)-R^e$, $C(O)-OR^e$, $C(O)-R^e$, NR^eR^f, $NR^e-C(O)R^f$, $C(O)-NR^eR^f$, $N[C(O)R^e][C(O)R^f]$, SR^e, halogen, CN, $SiR^{Sis}R^{Sit}R^{Siu}$ and NO_2,

wherein

R^{Sis}, R^{Sit} and R^{Siu} are independently from each other selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl, phenyl and $O-Si(CH_3)_3$,

R^e and R^f are independently selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, and 5 to 14 membered heteroaryl,

wherein

C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl can be substituted with one to five substituents selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^g, $OC(O)-R^g$, $C(O)-OR^g$, $C(O)-R^g$, NR^gR^h, $NR^g-C(O)R^h$, $C(O)-NR^gR^h$, $N[C(O)R^g][C(O)R^h]$, SR^g, halogen, CN, and NO_2;

C_{5-8}-cycloalkyl can be substituted with one to five substituents selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^g, $OC(O)-R^g$, $C(O)-OR^g$, $C(O)-R^g$, NR^gR^h, $NR^g-C(O)R^h$, $C(O)-NR^gR^h$, $N[C(O)R^g][C(O)R^h]$, SR^g, halogen, CN, and NO_2;

C_{6-14}-aryl and 5 to 14 membered heteroaryl can be substituted with one to five substituents independently selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^g, $OC(O)-R^g$, $C(O)-OR^g$, $C(O)-R^g$, NR^gR^h, $NR^g-C(O)R^h$, $C(O)-NR^gR^h$, $N[C(O)R^g][C(O)R^h]$, SR^g, halogen, CN, and NO_2;

wherein

R^g and R^h are independently selected from the group consisting of H, C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl,

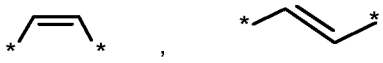
wherein

C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl can be substituted with one to five substituents selected from the group consisting of halogen, CN and NO_2,

n is 0, 1, 2 or 3,
m is 0, 1, 2 or 3,

and

L^1 and are L^2 are independently from each other and at each occurrence selected from the group consisting of C_{6-18}-arylene, 5 to 20 membered heteroarylene,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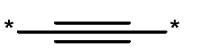
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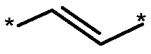
wherein
C_{6-18}-arylene and 5 to 20 membered heteroarylene can be substituted with one to six substituents R^3 at each occurrence selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl and 5 to 20 membered heteroaryl, OR^{31}, $OC(O)$-R^{31}, $C(O)$-OR^{31}, $C(O)$-R^{31}, $NR^{31}R^{32}$, NR^{31}-$C(O)R^{32}$, $C(O)$-$NR^{31}R^{32}$, $N[C(O)R^{31}][C(O)R^{32}]$, SR^{31}, halogen, CN, $SiR^{Siv}R^{Siw}R^{Six}$ and OH, and

wherein

and


can be substituted with one or two substituents R^4 at each occurrence selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl and 5 to 20 membered heteroaryl, $C(O)$-R^{41}, $C(O)$-$NR^{41}R^{42}$, $C(O)$-OR^{41} and CN,

wherein
R^{31}, R^{32}, R^{41} und R^{42} are independently from each other and at each occurrence selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl and 5 to 20 membered heteroaryl, and

wherein
C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be substituted with one to ten substituents independently selected from the group consisting of C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^i, $OC(O)$-R^i, $C(O)$-OR^i, $C(O)$-R^i, NR^iR^j, NR^i-$C(O)R^j$, $C(O)$-NR^iR^j, $N[C(O)R^i][C(O)R^j]$, SR^i, halogen, CN, $SiR^{Siv}R^{Siw}R^{Six}$ and NO_2; and at least two CH_2-groups, but not adjacent CH_2-groups of C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be replaced by O or S,

C_{5-12}-cycloalkyl can be substituted with one to six substituents independently selected from the group consisting of C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^i, $OC(O)$-R^j, $C(O)$-OR^i, $C(O)$-R^i, NR^iR^j, NR^i-$C(O)R^j$, $C(O)$-NR^iR^j, $N[C(O)R^i][C(O)R^j]$, SR^i, halogen, CN, $SiR^{Siv}R^{Siw}R^{Six}$ and NO_2; and one or two CH_2-groups, but not adjacent CH_2-groups, of C_{5-12}-cycloalkyl can be replaced by O, S, OC(O), CO, NR^i or NR^i-CO,

C_{6-18}-aryl and 5 to 20 membered heteroaryl can be substituted with one to six substituents independently selected from the group consisting of C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^i, $OC(O)$-R^j, $C(O)$-OR^i, $C(O)$-R^i, NR^iR^j, NR^i-$C(O)R^j$, $C(O)$-NR^iR^j, $N[C(O)R^i][C(O)R^j]$, SR^i, halogen, CN, $SiR^{Siv}R^{Siw}R^{Six}$ and NO_2,

wherein
R^{Siv}, R^{Siw}, R^{Six} are independently from each other selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl, phenyl and O-$Si(CH_3)_3$,

R^i and R^j are independently selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, and 5 to 14 membered heteroaryl,
wherein
C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl can be substituted with one to five substituents selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^k, $OC(O)$-R^l, $C(O)$-OR^k, $C(O)$-R^k, NR^kR^l, NR^k-$C(O)R^l$, $C(O)$-NR^kR^l, $N[C(O)R^k][C(O)R^l]$, SR^k, halogen, CN, and NO_2;

C_{5-8}-cycloalkyl can be substituted with one to five substituents selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^k, $OC(O)$-R^l, $C(O)$-OR^k, $C(O)$-R^k, NR^kR^l, NR^k-$C(O)R^l$, $C(O)$-NR^kR^l, $N[C(O)R^k][C(O)R^l]$, SR^k, halogen, CN, and NO_2;

C_{6-14}-aryl and 5 to 14 membered heteroaryl can be substituted with one to five substituents independently selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^k, $OC(O)$-R^l, $C(O)$-OR^k, $C(O)$-R^k, NR^kR^l, NR^k-$C(O)R^l$, $C(O)$-NR^kR^l, $N[C(O)R^k][C(O)R^l]$, SR^k, halogen, CN, and NO_2;

wherein
R^k and R^l are independently selected from the group consisting of H, C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl,
wherein

C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl can be substituted with one to five substituents selected from the group consisting of halogen, CN and NO_2.

Halogen can be F, Cl, Br and I.

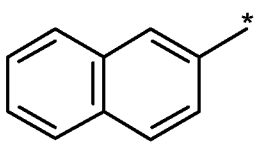
C_{1-4}-alkyl, C_{1-10}-alkyl, C_{1-20}-alkyl, C_{1-30}-alkyl, C_{1-36}-alkyl, C_{1-50}-alkyl, C_{1-60}-alkyl and C_{1-100}-alkyl can be branched or unbranched. Examples of C_{1-4}-alkyl are methyl, ethyl, *n*-propyl, isopropyl, *n*-butyl, *sec*-butyl, isobutyl and *tert*-butyl. Examples of C_{1-10}-alkyl are C_{1-4}-alkyl, *n*-pentyl, neopentyl, isopentyl, *n*-(1-ethyl)propyl, *n*-hexyl, *n*-heptyl, *n*-octyl, *n*-(2-ethyl)hexyl, *n*-nonyl and *n*-decyl. Examples of C_{1-20}-alkyl are C_{1-10}-alkyl and *n*-undecyl, *n*-dodecyl, *n*-undecyl, *n*-dodecyl, *n*-tridecyl, *n*-tetradecyl, *n*-pentadecyl, *n*-hexadecyl, *n*-heptadecyl, *n*-octadecyl, *n*-nonadecyl and *n*-icosyl (C_{20}). Examples of C_{1-30}-alkyl, C_{1-36}-alkyl, C_{1-50}-alkyl, C_{1-60}-alkyl and C_{1-100}-alkyl are C_{1-20}-alkyl and *n*-docosyl (C_{22}), *n*-tetracosyl (C_{24}), *n*-hexacosyl (C_{26}), *n*-octacosyl (C_{28}) and *n*-triacontyl (C_{30}).

C_{2-10}-alkenyl, C_{2-20}-alkenyl, C_{2-30}-alkenyl, C_{2-60}-alkenyl and C_{2-100}-alkenyl can be branched or unbranched. Examples of C_{1-20}-alkenyl are vinyl, propenyl, *cis*-2-butenyl, *trans*-2-butenyl, 3-butenyl, *cis*-2-pentenyl, *trans*-2-pentenyl, *cis*-3-pentenyl, *trans*-3-pentenyl, 4-pentenyl, 2-methyl-3-butenyl, hexenyl, heptenyl, octenyl, nonenyl and docenyl. Examples of C_{2-20}-alkenyl, C_{2-60}-alkenyl and C_{2-100}-alkenyl are C_{2-10}-alkenyl and linoleyl (C_{18}), linolenyl (C_{18}), oleyl (C_{18}), and arachidonyl (C_{20}). Examples of C_{2-30}-alkenyl are C_{2-20}-alkenyl and erucyl (C_{22}).

C_{2-10}-alkynyl, C_{2-20}-alkynyl, C_{2-30}-alkynyl, C_{2-60}-alkynyl and C_{2-100}-alkynyl can be branched or unbranched. Examples of C_{2-10}-alkynyl are ethynyl, 2-propynyl, 2-butynyl, 3-butynyl, pentynyl, hexynyl, heptynyl, octynyl, nonynyl and decynyl. Examples of C_{2-20}-alkynyl, C_{2-30}-alkenyl, C_{2-60}-alkynyl and C_{2-100}-alkynyl are undecynyl, dodecynyl, undecynyl, dodecynyl, tridecynyl, tetradecynyl, pentadecynyl, hexadecynyl, heptadecynyl, octadecynyl, nonadecynyl and icosynyl (C_{20}).

Examples of C_{5-6}-cycloalkyl are cyclopentyl and cyclohexyl. Examples of C_{5-8}-cycloalkyl are C_{5-6}-cycloalkyl and cycloheptyl and cyclooctyl. C_{5-12}-cycloalkyl are C_{5-8}-cycloalkyl and cyclononyl, cyclodecyl, cycloundecyl and cyclododecyl.

Examples of C_{6-10}-aryl are phenyl,



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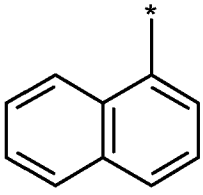

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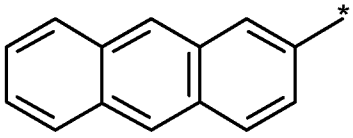
Examples of C_{6-14}-aryl are C_{6-10}-aryl and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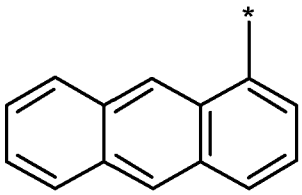
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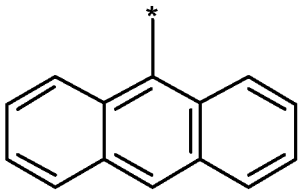

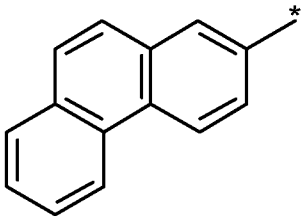
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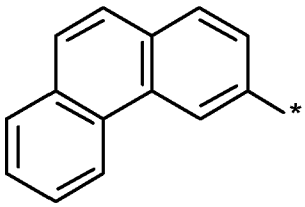
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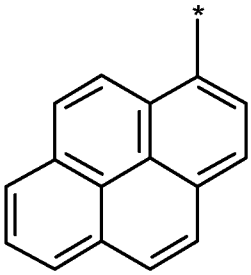
Examples of C_{6-18}-aryl are C_{6-14}-aryl and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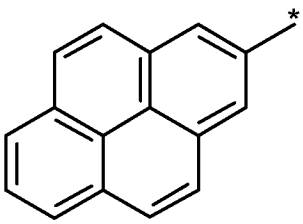

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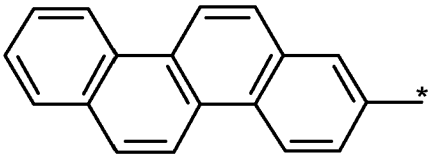
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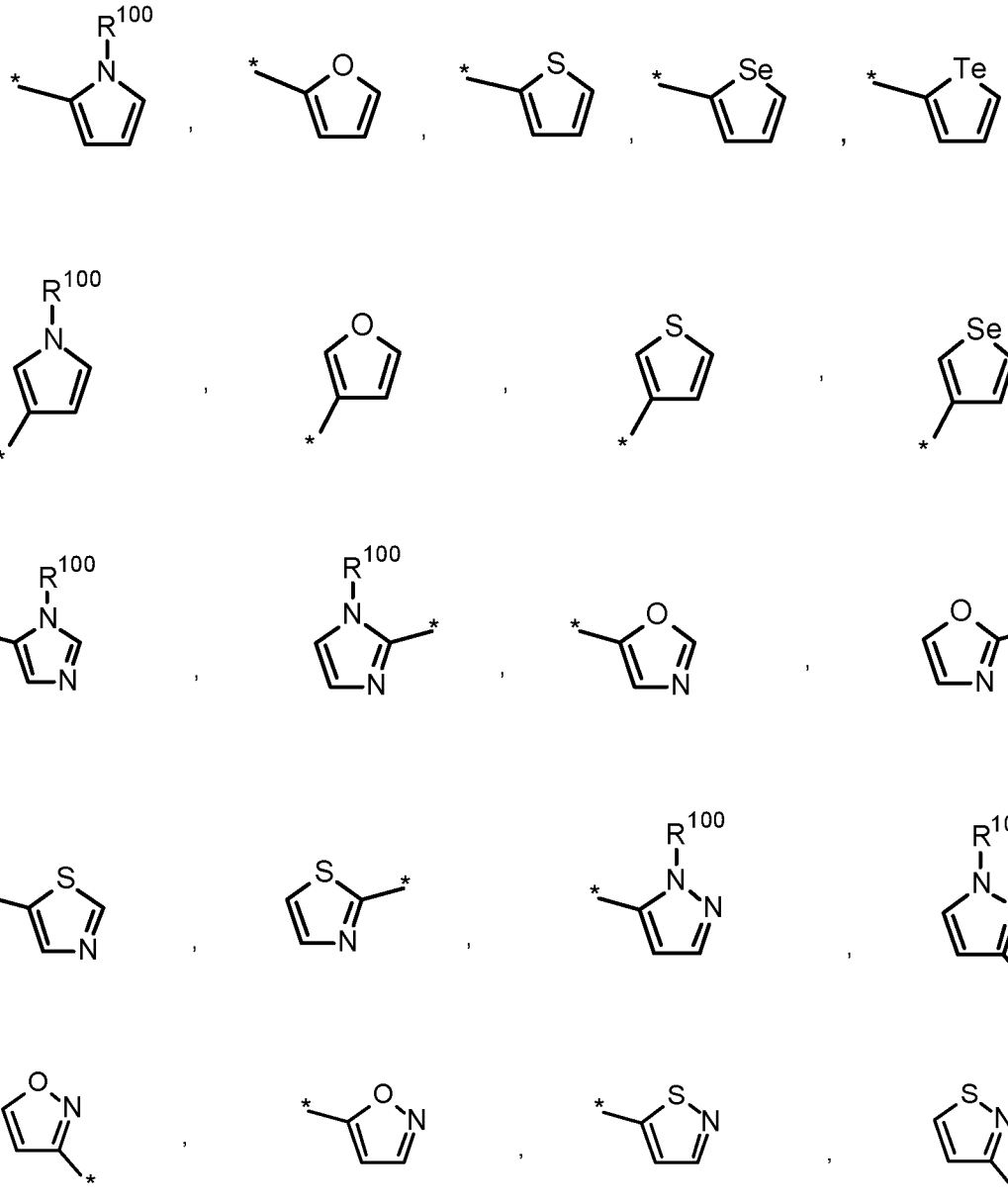
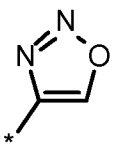
5 to 10 membered heteroaryl are 5 to 10 membered monocyclic or polycyclic, such as dicyclic, tricyclic or tetracyclic, ring systems, which comprise at least one heteroaromatic ring, and which may also comprise non-aromatic rings, which may be substituted by =O.

5 to 14 membered heteroaryl are 5 to 14 membered monocyclic or polycyclic, such as dicyclic, tricyclic or tetracyclic, ring systems, which comprise at least one heteroaromatic ring, and which may also comprise non-aromatic rings, which may be substituted by =O.

5 to 20 membered heteroaryl are 5 to 20 membered monocyclic or polycyclic, such as dicyclic, tricyclic or tetracyclic, ring systems, which comprise at least one heteroaromatic ring, and which may also comprise non-aromatic rings, which may be substituted by =O.

Examples of 5 to 10 membered heteroaryl are

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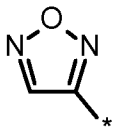
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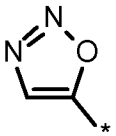
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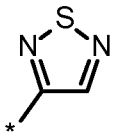

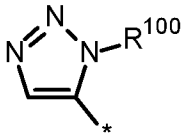
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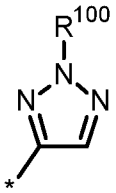
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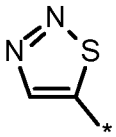
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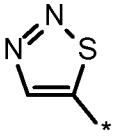

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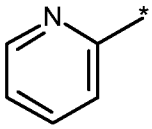
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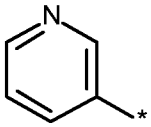
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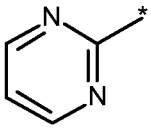
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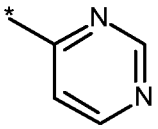

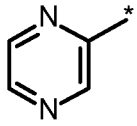
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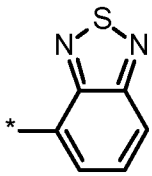
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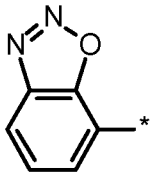
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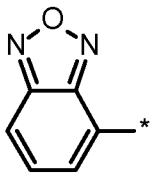

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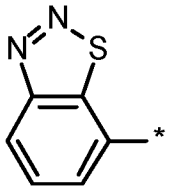
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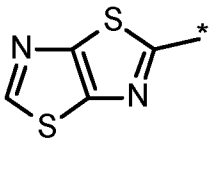
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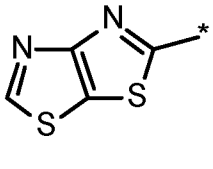
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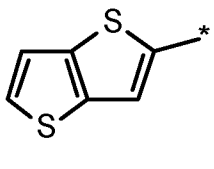

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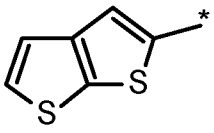
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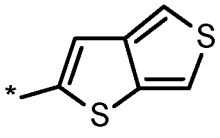
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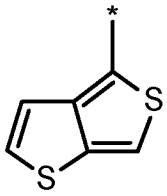
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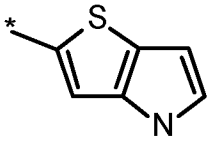

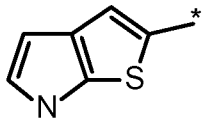
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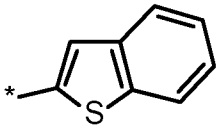
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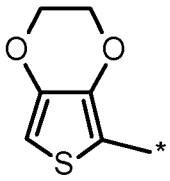
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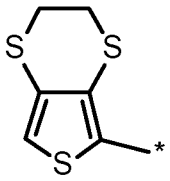
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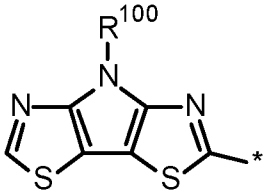
examples of 5 to 14 membered heteroaryl are the examples given for the 5 to 10 membered heteroaryl and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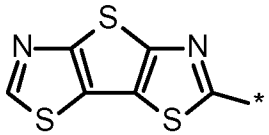
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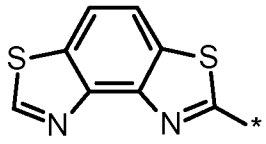
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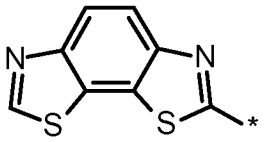
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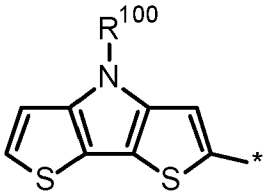
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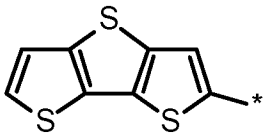
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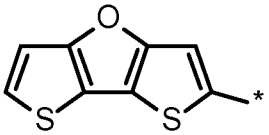
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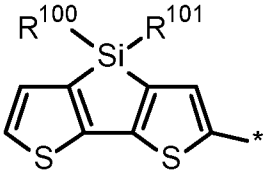
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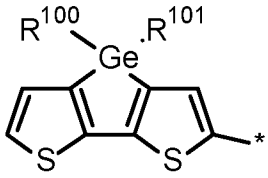
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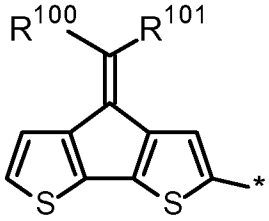
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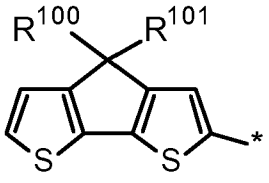
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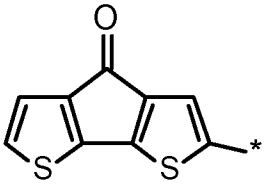
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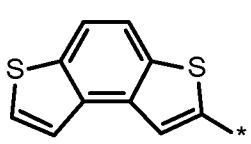
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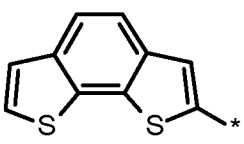
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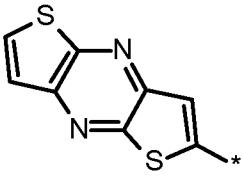
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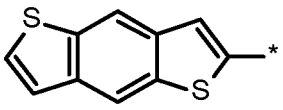
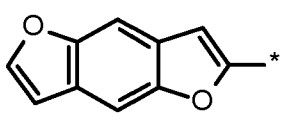
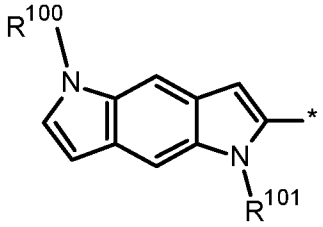
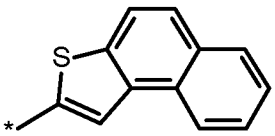
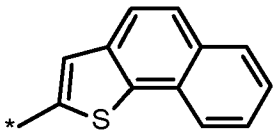
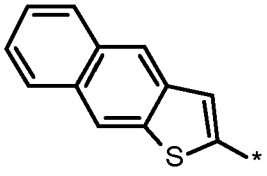
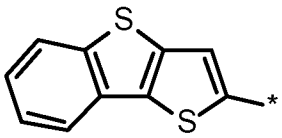
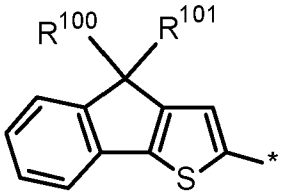
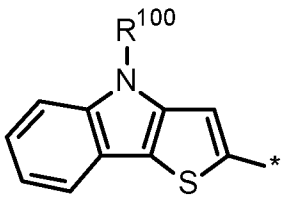
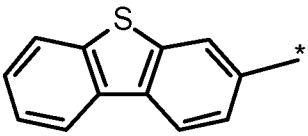
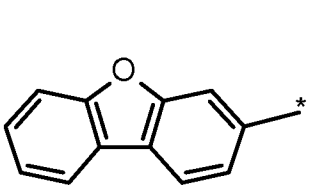
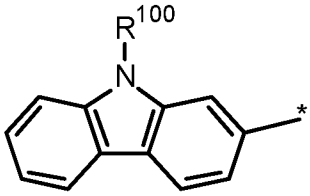
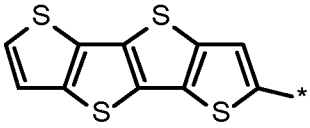
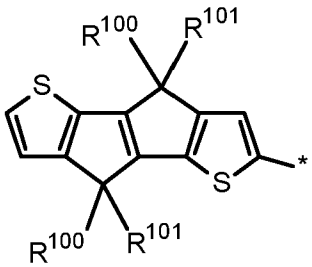
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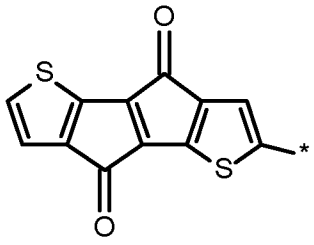
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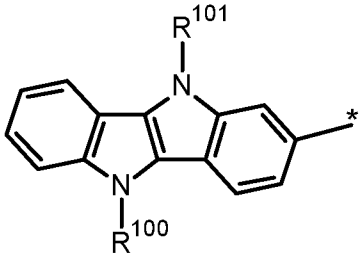
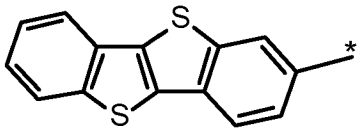
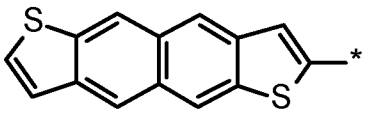
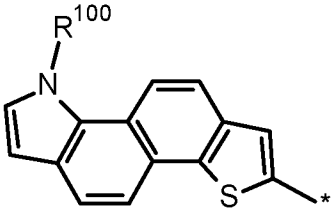
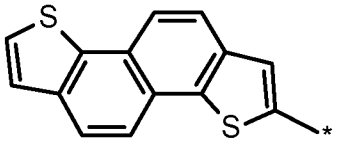
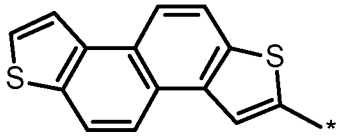
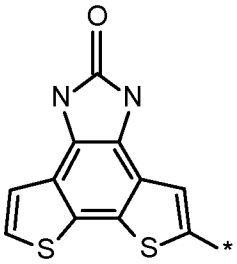
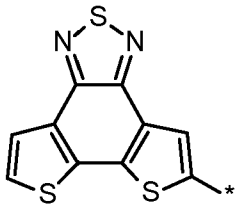
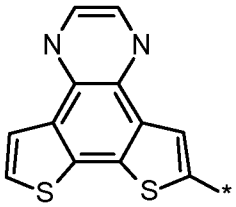
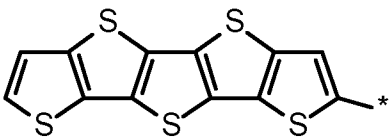
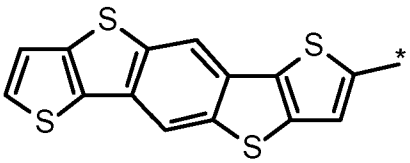
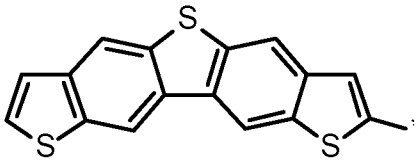
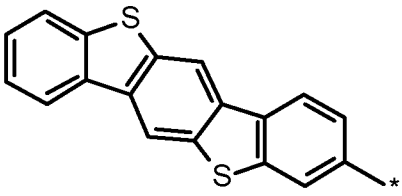
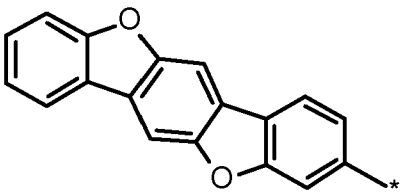
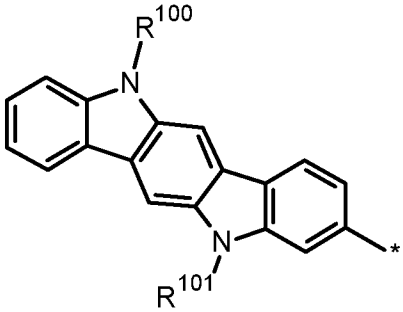
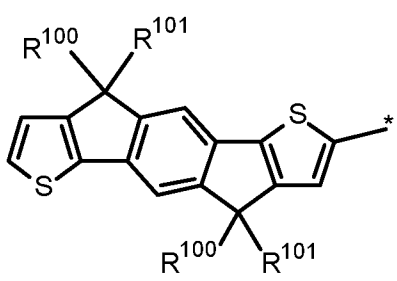
examples of 5 to 20 membered heteroaryl are the examples given for the 5 to 14 membered heteroaryl and



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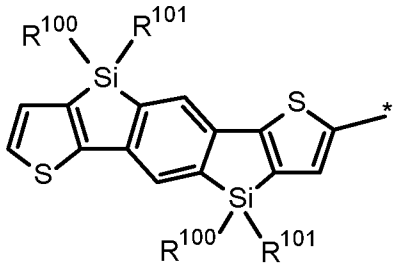


wherein

R^{100} and R^{101} are independently and at each occurrence selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, and 5 to 14 membered heteroaryl, or R^{100} and R^{101}, if attached to the same atom, together with the atom, to which they are attached, form a 5 to 12 membered ring system,

wherein

C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl can be substituted with one to five substituents selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^q, $OC(O)-R^q$, $C(O)-OR^q$, $C(O)-R^q$, NR^qR^r, $NR^q-C(O)R^r$, $C(O)-NR^qR^r$, $N[C(O)R^q][C(O)R^r]$, SR^q, halogen, CN, and NO_2;

C_{5-8}-cycloalkyl can be substituted with one to five substituents selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^q, $OC(O)-R^q$, $C(O)-OR^q$, $C(O)-R^q$, NR^qR^r, $NR^q-C(O)R^r$, $C(O)-NR^qR^r$, $N[C(O)R^q][C(O)R^r]$, SR^q, halogen, CN, and NO_2;

C_{6-14}-aryl and 5 to 14 membered heteroaryl can be substituted with one to five substituents independently selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^q, $OC(O)-R^q$, $C(O)-OR^q$, $C(O)-R^q$, NR^qR^r, $NR^q-C(O)R^r$, $C(O)-NR^qR^r$, $N[C(O)R^q][C(O)R^r]$, SR^q, halogen, CN, and NO_2;

5 to 12 membered ring system can be substituted with one to five substituents selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^q, $OC(O)-R^q$, $C(O)-OR^q$, $C(O)-R^q$, NR^qR^r, $NR^q-C(O)R^r$, $C(O)-NR^qR^r$, $N[C(O)R^q][C(O)R^r]$, SR^q, halogen, CN, and NO_2;

wherein

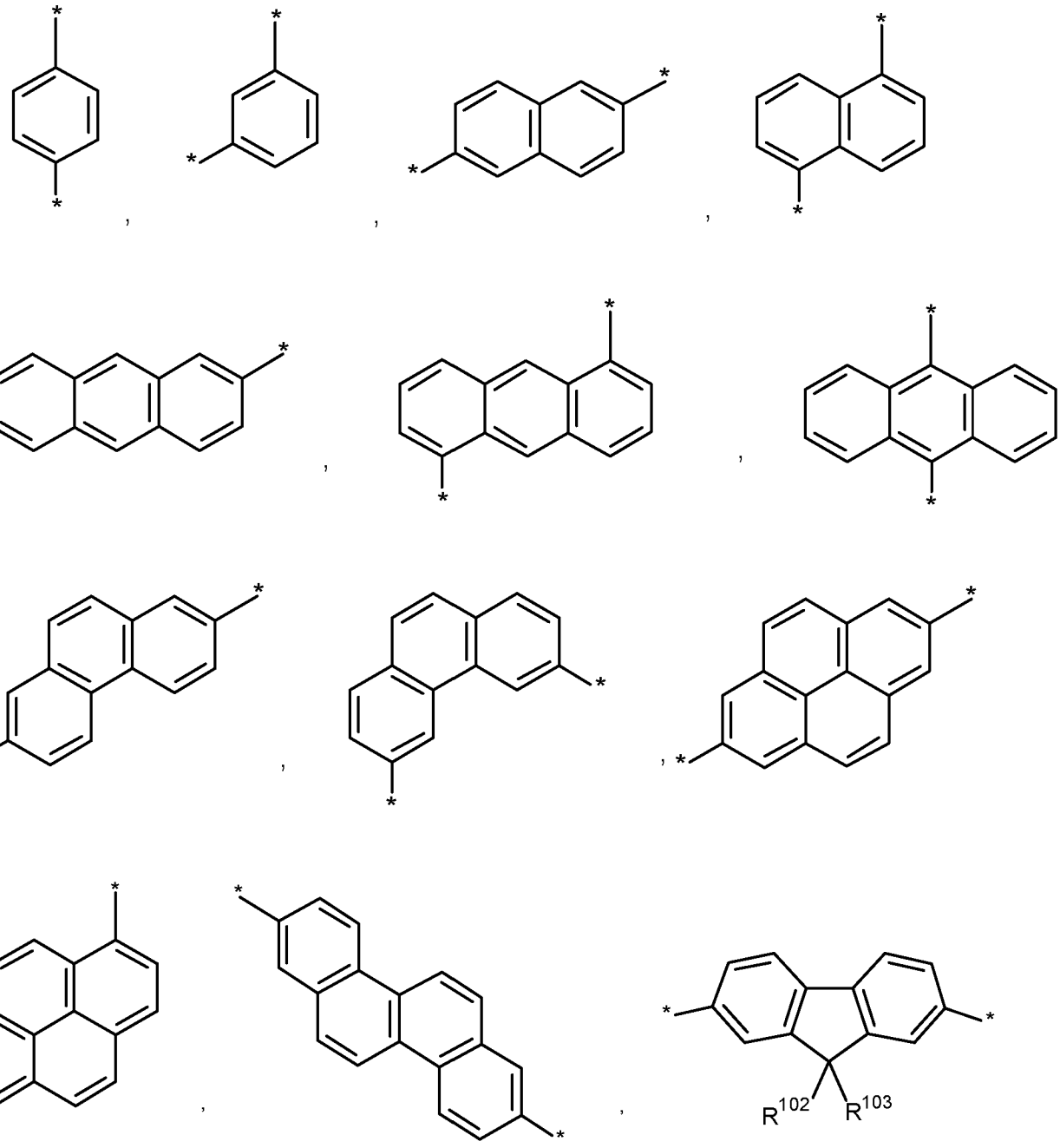
R^q and R^r are independently selected from the group consisting of H, C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl,

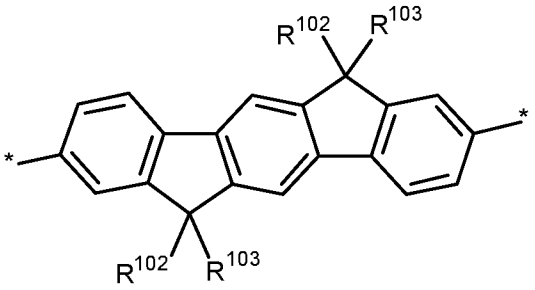
wherein

C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl can be substituted with one to five substituents selected from the group consisting of halogen, CN and NO_2.

C_{6-18}-arylene is a 6 to 18 membered monocyclic or polycyclic, such as dicyclic, tricyclic or tetracyclic, ring system, which comprises at least one C-aromatic ring, and which may also comprise non-aromatic rings, which may be substituted by =O.

Examples of C_{6-18}-arylene are





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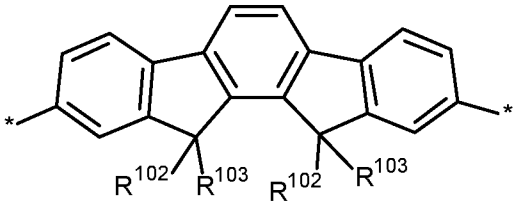


wherein

R^{102} and R^{103} are independently and at each occurrence selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, and 5 to 14 membered heteroaryl, or R^{102} and R^{103}, if attached to the same atom, together with the atom, to which they are attached, form a 5 to 12 membered ring system,

wherein

C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl can be substituted with one to five substituents selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^s, $OC(O)-R^t$, $C(O)-OR^s$, $C(O)-R^s$, NR^sR^t, $NR^s-C(O)R^t$, $C(O)-NR^sR^t$, $N[C(O)R^s][C(O)R^t]$, SR^s, halogen, CN, and NO_2;

C_{5-8}-cycloalkyl can be substituted with one to five substituents selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^s, $OC(O)-R^t$, $C(O)-OR^s$, $C(O)-R^s$, NR^sR^t, $NR^s-C(O)R^t$, $C(O)-NR^sR^t$, $N[C(O)R^s][C(O)R^t]$, SR^s, halogen, CN, and NO_2;

C_{6-14}-aryl and 5 to 14 membered heteroaryl can be substituted with one to five substituents independently selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^s, $OC(O)-R^t$, $C(O)-OR^s$, $C(O)-R^s$, NR^sR^t, $NR^s-C(O)R^t$, $C(O)-NR^sR^t$, $N[C(O)R^s][C(O)R^t]$, SR^s, halogen, CN, and NO_2;

5 to 12 membered ring system can be substituted with one to five substituents selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^s, $OC(O)-R^t$, $C(O)-OR^s$, $C(O)-R^s$, NR^sR^t, $NR^s-C(O)R^t$, $C(O)-NR^sR^t$, $N[C(O)R^s][C(O)R^t]$, SR^s, halogen, CN, and NO_2;

wherein

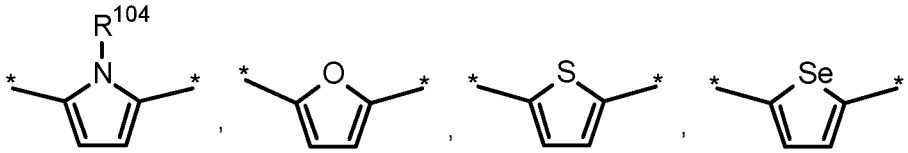
R^s and R^t are independently selected from the group consisting of H, C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl,

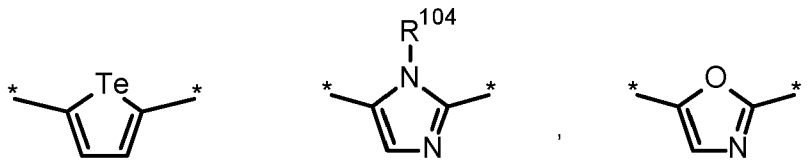
wherein

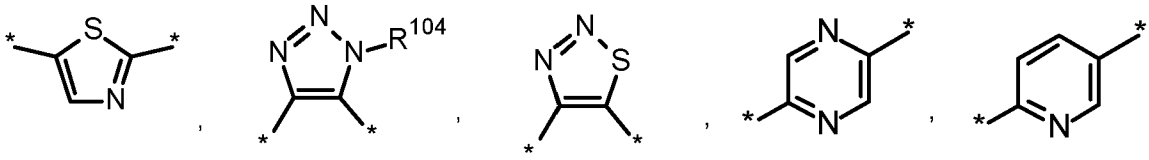
C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl can be substituted with one to five substituents selected from the group consisting of halogen, CN and NO_2.

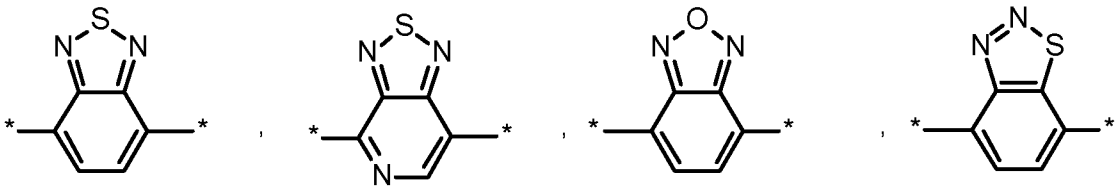
5 to 20 membered heteroarylene is a 5 to 20 membered monocyclic or polycyclic, such as dicyclic, tricyclic or tetracyclic, ring system, which comprises at least one heteroaromatic ring, and which may also comprise non-aromatic rings, which may be substituted by =O.

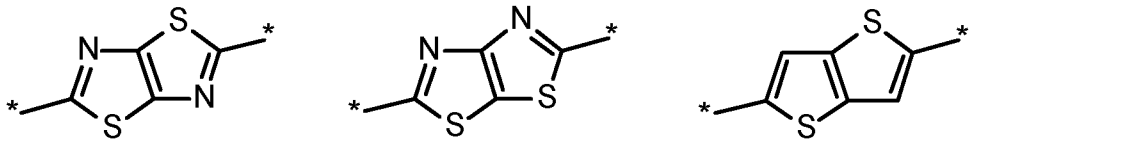
Examples of 5 to 20 membered heteroarylene are

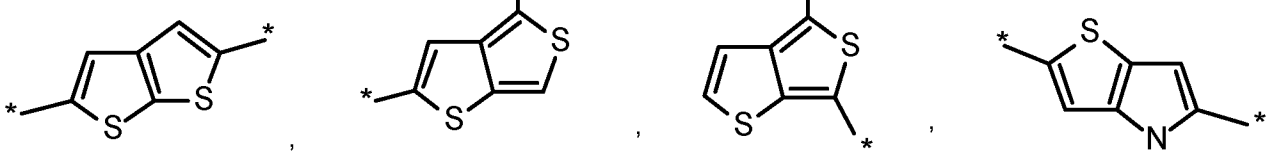


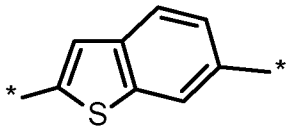








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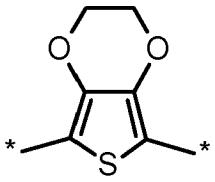
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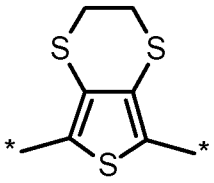
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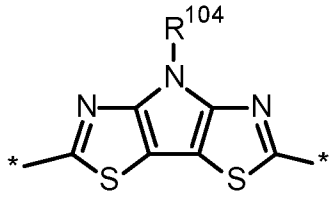
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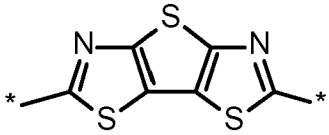
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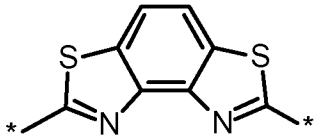
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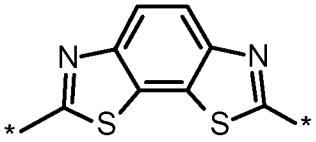
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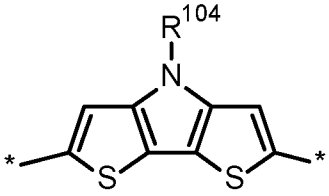
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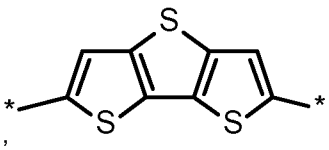
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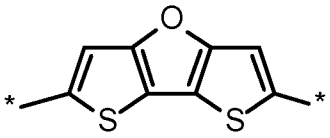
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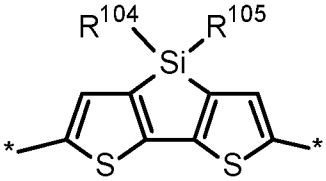
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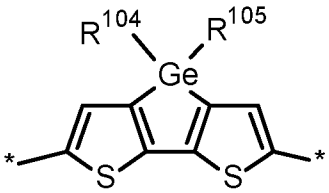
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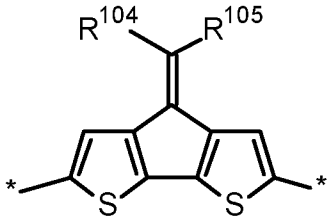
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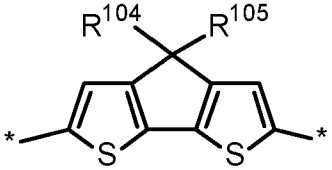
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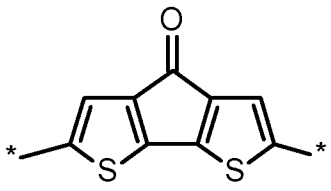
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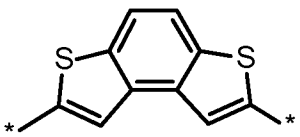
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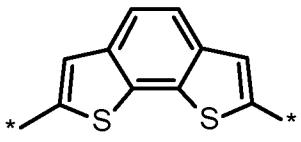
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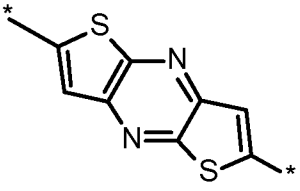
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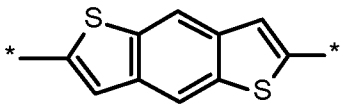
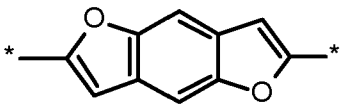
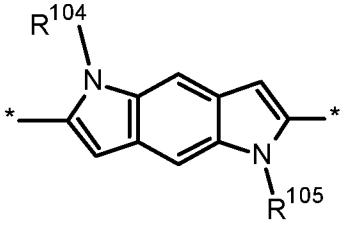
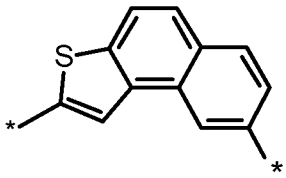
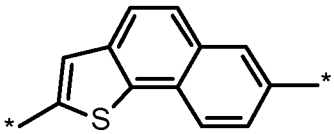
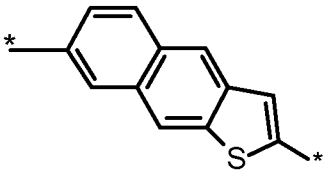
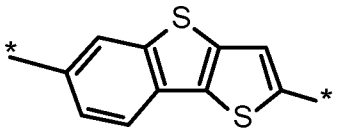
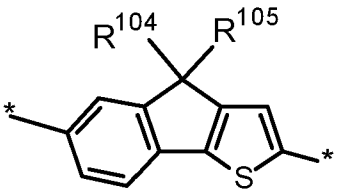
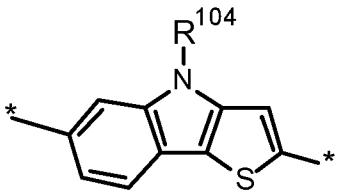
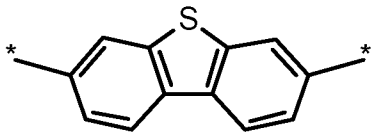
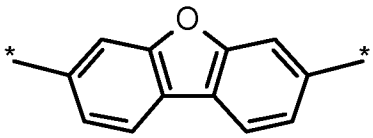
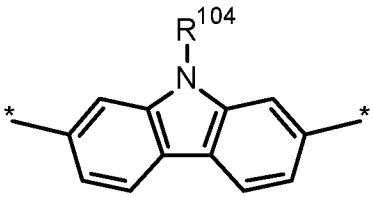
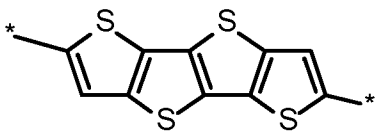
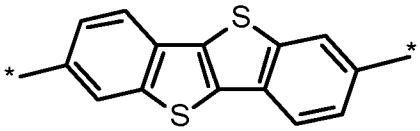
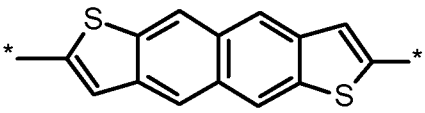
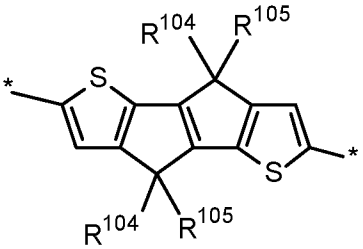
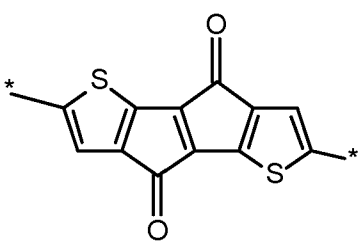
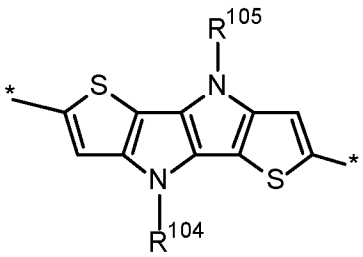

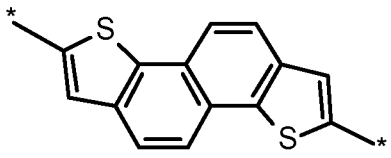
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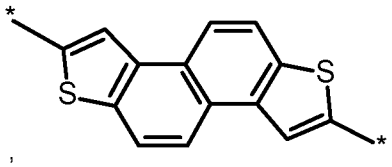

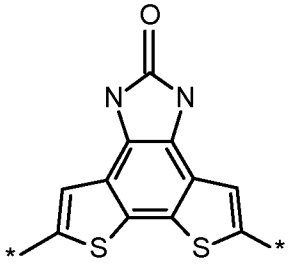
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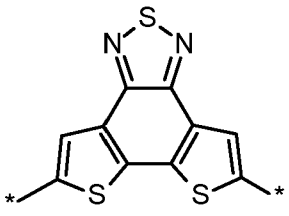
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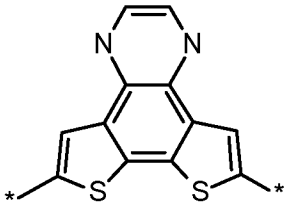

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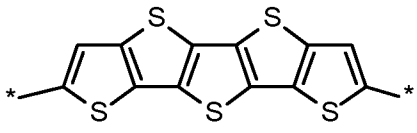
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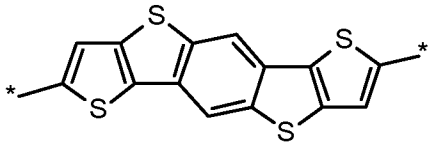
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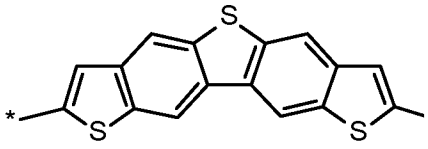

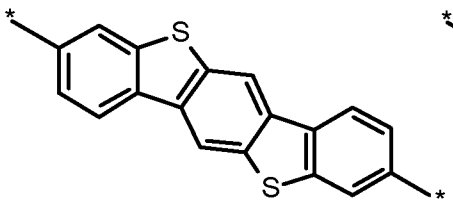
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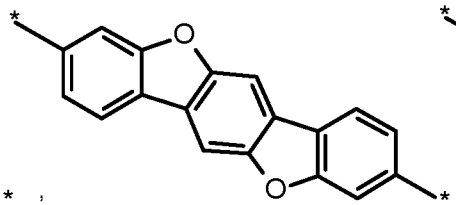
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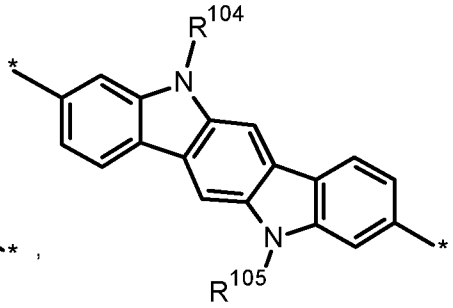

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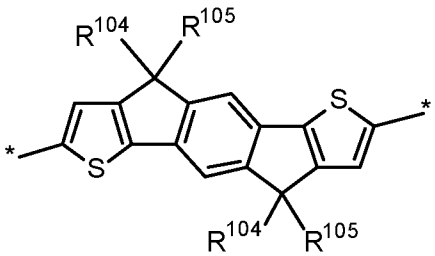
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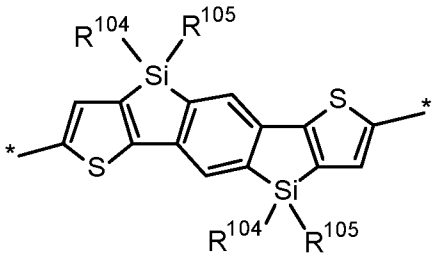


15 wherein

R^{104} and R^{105} are independently and at each occurrence selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, and 5 to 14 membered heteroaryl, or R^{104} and R^{105}, if attached to the same atom, together with the atom, to which they are attached, form a 5 to 12 membered ring system,

wherein
C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl can be substituted with one to five substituents selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^s, $OC(O)-R^t$, $C(O)-OR^s$, $C(O)-R^s$, NR^sR^t, $NR^s-C(O)R^t$, $C(O)-NR^sR^t$, $N[C(O)R^s][C(O)R^t]$, SR^s, halogen, CN, and NO_2;

C_{5-8}-cycloalkyl can be substituted with one to five substituents selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^s, $OC(O)-R^t$, $C(O)-OR^s$, $C(O)-R^s$, NR^sR^t, $NR^s-C(O)R^t$, $C(O)-NR^sR^t$, $N[C(O)R^s][C(O)R^t]$, SR^s, halogen, CN, and NO_2;

C_{6-14}-aryl and 5 to 14 membered heteroaryl can be substituted with one to five substituents independently selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^s, $OC(O)-R^t$, $C(O)-OR^s$, $C(O)-R^s$, NR^sR^t, $NR^s-C(O)R^t$, $C(O)-NR^sR^t$, $N[C(O)R^s][C(O)R^t]$, SR^s, halogen, CN, and NO_2;

5 to 12 membered ring system can be substituted with one to five substituents selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^s, $OC(O)-R^t$, $C(O)-OR^s$, $C(O)-R^s$, NR^sR^t, $NR^s-C(O)R^t$, $C(O)-NR^sR^t$, $N[C(O)R^s][C(O)R^t]$, SR^s, halogen, CN, and NO_2;
wherein
R^s and R^t are independently selected from the group consisting of H, C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl,
wherein
C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl can be substituted with one to five substituents selected from the group consisting of halogen, CN and NO_2.

The 5 to 12 membered ring system can contain, in addition to the atom, to which R^{100} and R^{101}, respectively R^{102} and R^{103}, respectively R^{104} and R^{105}, are attached, ring members selected from the group consisting of CH_2, O, S and NR^u, werein R^u is at each occurrence selected from the group consisting of H, C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl.

Preferably, the polymers of the present invention comprise at least 60% by weight of units of formula (I) based on the weight of the polymer.

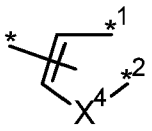
More preferably, the polymers of the present invention comprise at least 80% by weight of units of formula (I) based on the weight of the polymer.

Most preferably, the polymers of the present invention essentially consist of units of formula (I).

Preferably, X^1, X^2 and X^3 are independently from each other S or NR^1.

More preferably, X^1 is S, and X^2 and X^3 are NR^1.

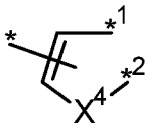
Preferably, A is



A1 ,

wherein
X^4 is S or NR^1, and
A1 can be substituted with one substituent R^2.

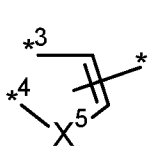
More preferably, A is



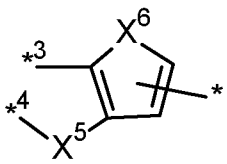
A1 ,

wherein
X^4 is S and
A1 is not substituted.

Preferably, B is selected from the group consisting of

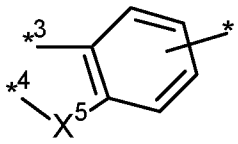


B1 ,



B2

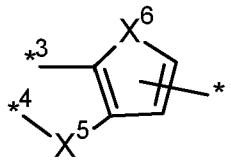
and



B3

wherein
X^5 and X^6 are independently from each other S or NR^1, and
B1, B2 and B3 can be substituted with one to three substituents R^2.

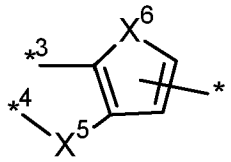
More preferably, B is



B2

wherein
X^5 and X^6 are independently from each other S or NR^1, and
B2 can be substituted with one substituent R^2.

Most preferably, B is



B2

wherein
X^5 and X^6 are S, and
B2 is not substituted.

Preferably, R^1 is at each occurrence selected from the group consisting of H, C_{1-100}-alkyl, C_{2-100}-alkenyl, C_{2-100}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl, and a 5 to 20 membered heteroaryl,
wherein

C_{1-100}-alkyl, C_{2-100}-alkenyl and C_{2-100}-alkynyl can be substituted with one to fourty substituents independently selected from the group consisting of C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^a, $OC(O)-R^a$, $C(O)-OR^a$, $C(O)-R^a$, $NR^a-C(O)R^b$, $C(O)-NR^aR^b$, SR^a, $Si(R^{Sia})(R^{Sib})(R^{Sic})$, $-O-Si(R^{Sia})(R^{Sib})(R^{Sic})$, halogen and CN; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-100}-alkyl, C_{2-100}-alkenyl and C_{2-100}-alkynyl can be replaced by O or S,

C_{5-12}-cycloalkyl can be substituted with one to six substituents independently selected from the group consisting of C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^a, $OC(O)-R^a$, $C(O)-OR^a$, $C(O)-R^a$, $NR^a-C(O)R^b$, $C(O)-NR^aR^b$, SR^a, $Si(R^{Sia})(R^{Sib})(R^{Sic})$, $-O-Si(R^{Sia})(R^{Sib})(R^{Sic})$, halogen, and CN; and one or two CH_2-groups, but not adjacent CH_2-groups, of C_{5-12}-cycloalkyl can be replaced by O, S, OC(O), CO, NR^a or NR^a-CO,

C_{6-18}-aryl and 5 to 20 membered heteroaryl can be substituted with one to six substituents independently selected from the group consisting of C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^a, $OC(O)-R^a$, $C(O)-OR^a$, $C(O)-R^a$, $NR^a-C(O)R^b$, $C(O)-NR^aR^b$, SR^a, $Si(R^{Sia})(R^{Sib})(R^{Sic})$, $-O-Si(R^{Sia})(R^{Sib})(R^{Sic})$, halogen, and CN,

wherein

R^a and R^b are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl and 5 to 14 membered heteroaryl,

R^{Sia}, R^{Sib} and R^{Sic} are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, O-C_{1-60}-alkyl, O-C_{2-60}-alkenyl, O-C_{2-60}-alkynyl, O-C_{5-8}-cycloalkyl, $-[O-SiR^{Sid}R^{Sie}]_o-R^{Sif}$,

wherein

o is an integer from 1 to 50,

R^{Sid}, R^{Sie} and R^{Sif} are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, $-[O-SiR^{Sig}R^{Sih}]_p-R^{Sii}$,

wherein

p is an integer from 1 to 50,

R^{Sig} R^{Sih} and R^{Sii} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, $O-Si(CH_3)_3$,

R^5, R^6, R^{50}, R^{60}, R^{500} and R^{600} are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, and 5 to 14 membered heteroaryl,

C_{1-60}-alkyl, C_{2-60}-alkenyl and C_{2-60}-alkynyl can be substituted with one to twenty substituents selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, OR^c, $OC(O)-R^c$, $C(O)-OR^c$, $C(O)-R^c$, $NR^c-C(O)R^d$, $C(O)-NR^cR^d$, SR^c, $Si(R^{Sij})(R^{Sik})(R^{Sil})$, $-O-Si(R^{Sij})(R^{Sik})(R^{Sil})$, halogen, and CN; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-60}-alkyl, C_{2-60}-alkenyl and C_{2-60}-alkynyl can be replaced by O or S,

C_{5-8}-cycloalkyl can be substituted with one to five substituents selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, OR^c, $OC(O)-R^c$, $C(O)-OR^c$, $C(O)-R^c$, $NR^c-C(O)R^d$, $C(O)-NR^cR^d$, SR^c, $Si(R^{Sij})(R^{Sik})(R^{Sil})$, $-O-Si(R^{Sij})(R^{Sik})(R^{Sil})$, halogen, and CN; and one or two CH_2-groups, but not adjacent CH_2-groups, of C_{5-8}-cycloalkyl can be replaced by O, S, OC(O), CO, NR^c or NR^c-CO,

C_{6-14}-aryl and 5 to 14 membered heteroaryl can be substituted with one to five substituents independently selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, OR^c, $OC(O)-R^c$, $C(O)-OR^c$, $C(O)-R^c$, $NR^c-C(O)R^d$, $C(O)-NR^cR^d$, SR^c, $Si(R^{Sij})(R^{Sik})(R^{Sil})$, $-O-Si(R^{Sij})(R^{Sik})(R^{Sil})$, halogen and CN;

wherein
R^c and R^d are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl,

R^{Sij}, R^{Sik} and R^{Sil} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, $-[O-SiR^{Sim}R^{Sin}]_q-R^{Sio}$,
wherein
q is an integer from 1 to 50,

R^{Sim}, R^{Sin}, R^{Sio} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, O-C_{1-30}-alkyl, O-C_{2-30}-alkenyl, O-C_{2-30}-alkynyl, O-C_{5-6}-cycloalkyl, O-C_{6-10}-aryl, O-5 to 10 membered heteroaryl, $-[O-SiR^{Sip}R^{Siq}]_r-R^{Sir}$, $NR^{70}R^{80}$, halogen, and O-$C(O)-R^{70}$;
wherein
r is an integer from 1 to 50,
R^{Sip}, R^{Siq}, R^{Sir} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, O-C_{1-30}-alkyl, O-C_{2-30}-alkenyl, O-C_{2-30}-alkynyl, O-C_{5-6}-cycloalkyl, O-C_{6-10}-aryl, O-5 to 10 membered heteroaryl, O-$Si(CH_3)_3$, $NR^{700}R^{800}$, halogen and O-$C(O)-R^{700}$,

R^7, R^8, R^{70}, R^{80}, R^{700} and R^{800} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, and 5 to 10 membered heteroaryl,

C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be substituted with one to ten substituents selected from the group consisting of halogen and CN.

More preferably, R^1 is at each occurrence selected from the group consisting of C_{1-100}-alkyl, C_{2-100}-alkenyl and C_{2-100}-alkynyl,
wherein

C_{1-100}-alkyl, C_{2-100}-alkenyl and C_{2-100}-alkynyl can be substituted with one to fourty substituents independently selected from the group consisting of C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^a, $OC(O)-R^a$, $C(O)-OR^a$, $C(O)-R^a$, $NR^a-C(O)R^b$, $C(O)-NR^aR^b$, SR^a, $Si(R^{Sia})(R^{Sib})(R^{Sic})$, $-O-Si(R^{Sia})(R^{Sib})(R^{Sic})$, halogen, and CN; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-100}-alkyl, C_{2-100}-alkenyl and C_{2-100}-alkynyl can be replaced by O or S,

wherein
R^a and R^b are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl and 5 to 14 membered heteroaryl,

R^{Sia}, R^{Sib} and R^{Sic} are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, $-[O-SiR^{Sid}R^{Sie}]_o-R^{Sif}$,
wherein
o is an integer from 1 to 50,

R^{Sid}, R^{Sie} and R^{Sif} are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, $-[O-SiR^{Sig}R^{Sih}]_p-R^{Sii}$,
wherein
p is an integer from 1 to 50,
R^{Sig} R^{Sih}, R^{Sii} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, $O-Si(CH_3)_3$,

R^5, R^6, R^{50}, R^{60}, R^{500} and R^{600} are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, and 5 to 14 membered heteroaryl,

C_{1-60}-alkyl, C_{2-60}-alkenyl and C_{2-60}-alkynyl can be substituted with one to twenty substituents selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, OR^c, $OC(O)-R^c$, $C(O)-OR^c$, $C(O)-R^c$, $NR^c-C(O)R^d$, $C(O)-NR^cR^d$, SR^c, $Si(R^{Sij})(R^{Sik})(R^{Sil})$, $-O-Si(R^{Sij})(R^{Sik})(R^{Sil})$, halogen, and CN; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-60}-alkyl, C_{2-60}-alkenyl and C_{2-60}-alkynyl can be replaced by O or S,

C_{5-8}-cycloalkyl can be substituted with one to five substituents selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, OR^c, $OC(O)$-R^c, $C(O)$-OR^c, $C(O)$-R^c, NR^c-$C(O)R^d$, $C(O)$-NR^cR^d, SR^c, $Si(R^{Sij})(R^{Sik})(R^{Sil})$, -O-$Si(R^{Sij})(R^{Sik})(R^{Sil})$, halogen, and CN; and one or two CH_2-groups, but not adjacent CH_2-groups, of C_{5-8}-cycloalkyl can be replaced by O, S, OC(O), CO, NR^c or NR^c-CO,

C_{6-14}-aryl and 5 to 14 membered heteroaryl can be substituted with one to five substituents independently selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, OR^c, $OC(O)$-R^c, $C(O)$-OR^c, $C(O)$-R^c, NR^c-$C(O)R^d$, $C(O)$-NR^cR^d, SR^c, $Si(R^{Sij})(R^{Sik})(R^{Sil})$, -O-$Si(R^{Sij})(R^{Sik})(R^{Sil})$, halogen, and CN;

wherein
R^c and R^d are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl,

R^{Sij}, R^{Sik} and R^{Sil} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, -$[O\text{-}SiR^{Sim}R^{Sin}]_q$-$R^{Sio}$,
wherein
q is an integer from 1 to 50,

R^{Sim}, R^{Sin}, R^{Sio} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, -$[O\text{-}SiR^{Sip}R^{Siq}]_r$-$R^{Sir}$,
wherein
r is an integer from 1 to 50,
R^{Sip}, R^{Siq}, R^{Sir} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, O-$Si(CH_3)_3$,

R^7, R^8, R^{70}, R^{80}, R^{700} and R^{800} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, and 5 to 10 membered heteroaryl,

C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be substituted with one to ten substituents selected from the group consisting of halogen and CN.

Even more preferably, R^1 is at each occurrence selected from the group consisting of C_{1-50}-alkyl, C_{2-50}-alkenyl and C_{2-50}-alkynyl,

wherein
C_{1-50}-alkyl, C_{2-50}-alkenyl and C_{2-50}-alkynyl can be substituted with one to twenty substituents independently selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^a, SR^a, $Si(R^{Sia})(R^{Sib})(R^{Sic})$, -O-$Si(R^{Sia})(R^{Sib})(R^{Sic})$, halogen, and CN; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-50}-alkyl, C_{2-50}-alkenyl and C_{2-50}-alkynyl can be replaced by O or S,

wherein
R^a and R^b are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl and C_{6-10}-aryl,

R^{Sia}, R^{Sib} and R^{Sic} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, $-[O\text{-}SiR^{Sid}R^{Sie}]_o\text{-}R^{Sif}$,
wherein
o is an integer from 1 to 50,

R^{Sid}, R^{Sie}, R^{Sif} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, $-[O\text{-}SiR^{Sig}R^{Sih}]_p\text{-}R^{Sii}$,
wherein
p is an integer from 1 to 50,

R^{Sig} R^{Sih}, R^{Sii} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, O-$Si(CH_3)_3$,

R^5, R^6, R^{50}, R^{60}, R^{500} and R^{600} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, and 5 to 10 membered heteroaryl,

C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be substituted with one to ten substituents selected from the group consisting of halogen and CN.

Most preferably, R^1 is at each occurrence selected from the group consisting of C_{1-36}-alkyl, C_{2-36}-alkenyl and C_{2-36}-alkynyl,
wherein
C_{1-36}-alkyl, C_{2-36}-alkenyl and C_{2-36}-alkynyl can be substituted with one to twenty substituents independently selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^a, SR^a, $Si(R^{Sia})(R^{Sib})(R^{Sic})$, -O-$Si(R^{Sia})(R^{Sib})(R^{Sic})$, halogen, and CN; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-36}-alkyl, C_{2-36}-alkenyl and C_{2-36}-alkynyl can be replaced by O or S,

wherein
R^a and R^b are independently selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl and C_{6-10}-aryl

R^{Sia}, R^{Sib} and R^{Sic} are independently selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, $-[O-SiR^{Sid}R^{Sie}]_o-R^{Sif}$
wherein

o is an integer from 1 to 50,

R^{Sid}, R^{Sie}, R^{Sif} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, $-[O-SiR^{Sig}R^{Sih}]_p-R^{Sii}$,
wherein
p is an integer from 1 to 50,

R^{Sig} R^{Sih}, R^{Sii} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, $O-Si(CH_3)_3$,

R^5, R^6, R^{50}, R^{60}, R^{500} and R^{600} are independently selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, and 5 to 10 membered heteroaryl,

C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl can be substituted with one to ten substituents selected from the group consisting of halogen and CN.

In particular, R^1 is at each occurrence unsubstituted C_{1-36}-alkyl.

Preferably, R^2 is at each occurrence selected from the group consisting of C_{1-30}-alkyl and halogen,
wherein

C_{1-30}-alkyl can be substituted with one to ten substituents independently selected from the group consisting of C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^e, $OC(O)-R^e$, $C(O)-OR^e$, $C(O)-R^e$, NR^eR^f, $NR^e-C(O)R^f$, $C(O)-NR^eR^f$, $N[C(O)R^e][C(O)R^f]$, SR^e, halogen, CN, $SiR^{Sis}R^{Sit}R^{Siu}$ and NO_2; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-30}-alkyl can be replaced by O or S,

wherein
R^{Sis}, R^{Sit} and R^{Siu} are independently from each other selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl, phenyl and $O-Si(CH_3)_3$,

R^e and R^f are independently selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, and 5 to 14 membered heteroaryl,
wherein
C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl can be substituted with one to five substituents selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^g, $OC(O)-R^g$, $C(O)-OR^g$, $C(O)-R^g$, NR^gR^h, $NR^g-C(O)R^h$, $C(O)-NR^gR^h$, $N[C(O)R^g][C(O)R^h]$, SR^g, halogen, CN, and NO_2;

C_{5-8}-cycloalkyl can be substituted with one to five substituents selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^g, $OC(O)-R^g$, $C(O)-OR^g$, $C(O)-R^g$, NR^gR^h, $NR^g-C(O)R^h$, $C(O)-NR^gR^h$, $N[C(O)R^g][C(O)R^h]$, SR^g, halogen, CN, and NO_2;

C_{6-14}-aryl and 5 to 14 membered heteroaryl can be substituted with one to five substituents independently selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^g, $OC(O)-R^g$, $C(O)-OR^g$, $C(O)-R^g$, NR^gR^h, $NR^g-C(O)R^h$, $C(O)-NR^gR^h$, $N[C(O)R^g][C(O)R^h]$, SR^g, halogen, CN, and NO_2;

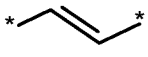
wherein
R^g and R^h are independently selected from the group consisting of H, C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl,
wherein
C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl can be substituted with one to five substituents selected from the group consisting of halogen, CN and NO_2.

More preferably, R^2 is at each occurrence selected from the group consisting of unsubstituted C_{1-30}-alkyl and halogen.

Preferably, n is 0, 1 or 2. More preferably, n is 0 or 1. Most preferably, n is 0.

Preferably, m is 0, 1 or 2.

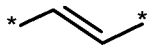
Preferably, L^1 and L^2 are independently from each other and at each occurrence selected from the group consisting of C_{6-18}-arylene, 5 to 20 membered heteroarylene,

and  ,

wherein

C_{6-18}-arylene and 5 to 20 membered heteroarylene can be substituted with one to six substituents R^3 at each occurrence selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl and 5 to 20 membered heteroaryl, OR^{31}, $OC(O)$-R^{31}, $C(O)$-OR^{31}, $C(O)$-R^{31}, $NR^{31}R^{32}$, NR^{31}-$C(O)R^{32}$, $C(O)$-$NR^{31}R^{32}$, SR^{31}, halogen, CN, $SiR^{Siv}R^{Siw}R^{Six}$ and OH, and

wherein



can be substituted with one or two substituents R^4 at each occurrence selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl and 5 to 20 membered heteroaryl, $C(O)$-R^{41}, $C(O)$-$NR^{41}R^{42}$, $C(O)$-OR^{41} and CN,

wherein

R^{31}, R^{32}, R^{41} und R^{42} are independently from each other and at each occurrence selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl and 5 to 20 membered heteroaryl, and

wherein

C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be substituted with one to ten substituents independently selected from the group consisting of C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^i, $OC(O)$-R^j, $C(O)$-OR^i, $C(O)$-R^i, NR^iR^j, NR^i-$C(O)R^j$, $C(O)$-NR^iR^j, $N[C(O)R^i][C(O)R^j]$, SR^i, halogen, CN, $SiR^{Siv}R^{Siw}R^{Six}$ and NO_2; and at least two CH_2-groups, but not adjacent CH_2-groups of C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be replaced by O or S,

C_{5-12}-cycloalkyl can be substituted with one to six substituents independently selected from the group consisting of C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^i, $OC(O)$-R^j, $C(O)$-OR^i, $C(O)$-R^i, NR^iR^j, NR^i-$C(O)R^j$, $C(O)$-NR^iR^j, $N[C(O)R^i][C(O)R^j]$, SR^i, halogen, CN, $SiR^{Siv}R^{Siw}R^{Six}$ and NO_2; and one or two CH_2-groups, but not adjacent CH_2-groups, of C_{5-12}-cycloalkyl can be replaced by O, S, $OC(O)$, CO, NR^i or NR^i-CO,

C_{6-18}-aryl and 5 to 20 membered heteroaryl can be substituted with one to six substituents independently selected from the group consisting of C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^i, $OC(O)$-R^j, $C(O)$-OR^i, $C(O)$-R^i, NR^iR^j, NR^i-$C(O)R^j$, $C(O)$-NR^iR^j, $N[C(O)R^i][C(O)R^j]$, SR^i, halogen, CN, $SiR^{Siv}R^{Siw}R^{Six}$ and NO_2,

wherein

R^{Siv}, R^{Siw}, R^{Six} are independently from each other selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl, phenyl and O-$Si(CH_3)_3$,

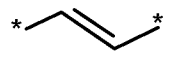
R^i and R^j are independently selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, and 5 to 14 membered heteroaryl,
wherein
C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl can be substituted with one to five substituents selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^k, $OC(O)-R^l$, $C(O)-OR^k$, $C(O)-R^k$, NR^kR^l, $NR^k-C(O)R^l$, $C(O)-NR^kR^l$, $N[C(O)R^k][C(O)R^l]$, SR^k, halogen, CN, and NO_2;

C_{5-8}-cycloalkyl can be substituted with one to five substituents selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^k, $OC(O)-R^l$, $C(O)-OR^k$, $C(O)-R^k$, NR^kR^l, $NR^k-C(O)R^l$, $C(O)-NR^kR^l$, $N[C(O)R^k][C(O)R^l]$, SR^k, halogen, CN, and NO_2;

C_{6-14}-aryl and 5 to 14 membered heteroaryl can be substituted with one to five substituents independently selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^k, $OC(O)-R^l$, $C(O)-OR^k$, $C(O)-R^k$, NR^kR^l, $NR^k-C(O)R^l$, $C(O)-NR^kR^l$, $N[C(O)R^k][C(O)R^l]$, SR^k, halogen, CN, and NO_2;

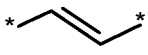
wherein
R^k and R^l are independently selected from the group consisting of H, C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl,
wherein
C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl can be substituted with one to five substituents selected from the group consisting of halogen, CN and NO_2.

More preferably, L^1 and L^2 are independently from each other and at each occurrence selected from the group consisting of 5 to 20 membered heteroarylene,

and  ,

wherein
5 to 20 membered heteroarylene can be substituted with one to six substituents R^3 at each occurrence selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl and 5 to 20 membered heteroaryl, OR^{31}, $OC(O)-R^{31}$, $C(O)-OR^{31}$, $C(O)-R^{31}$, $NR^{31}R^{32}$, $NR^{31}-C(O)R^{32}$, $C(O)-NR^{31}R^{32}$, SR^{31}, halogen, CN, $SiR^{Siv}R^{Siw}R^{Six}$ and OH, and

wherein



can be substituted with one or two substituents R^4 at each occurrence selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl and 5 to 20 membered heteroaryl, C(O)-R^{41}, C(O)-$NR^{41}R^{42}$, C(O)-OR^{41} and CN,

wherein
R^{31}, R^{32}, R^{41} und R^{42} are independently from each other and at each occurrence selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl and 5 to 20 membered heteroaryl, and

wherein
C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be substituted with one to ten substituents independently selected from the group consisting of C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^i, OC(O)-R^j, C(O)-OR^i, C(O)-R^i, NR^iR^j, NR^i-C(O)R^j, C(O)-NR^iR^j, N[C(O)R^i][C(O)R^j], SR^i, halogen, CN, $SiR^{Siv}R^{Siw}R^{Six}$ and NO_2; and at least two CH_2-groups, but not adjacent CH_2-groups of C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be replaced by O or S,

C_{5-12}-cycloalkyl can be substituted with one to six substituents independently selected from the group consisting of C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^i, OC(O)-R^j, C(O)-OR^i, C(O)-R^i, NR^iR^j, NR^i-C(O)R^j, C(O)-NR^iR^j, N[C(O)R^i][C(O)R^j], SR^i, halogen, CN, $SiR^{Siv}R^{Siw}R^{Six}$ and NO_2; and one or two CH_2-groups, but not adjacent CH_2-groups, of C_{5-12}-cycloalkyl can be replaced by O, S, OC(O), CO, NR^i or NR^i-CO,

C_{6-18}-aryl and 5 to 20 membered heteroaryl can be substituted with one to six substituents independently selected from the group consisting of C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^i, OC(O)-R^j, C(O)-OR^i, C(O)-R^i, NR^iR^j, NR^i-C(O)R^j, C(O)-NR^iR^j, N[C(O)R^i][C(O)R^j], SR^i, halogen, CN, $SiR^{Siv}R^{Siw}R^{Six}$ and NO_2,

wherein
R^{Siv}, R^{Siw}, R^{Six} are independently from each other selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl, phenyl and O-$Si(CH_3)_3$,

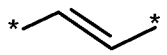
R^i and R^j are independently selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, and 5 to 14 membered heteroaryl, wherein
C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl can be substituted with one to five substituents selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^k, OC(O)-R^l, C(O)-OR^k, C(O)-R^k, NR^kR^l, NR^k-C(O)R^l, C(O)-NR^kR^l, N[C(O)R^k][C(O)R^l], SR^k, halogen, CN, and NO_2;

C_{5-8}-cycloalkyl can be substituted with one to five substituents selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^k, $OC(O)-R^l$, $C(O)-OR^k$, $C(O)-R^k$, NR^kR^l, $NR^k-C(O)R^l$, $C(O)-NR^kR^l$, $N[C(O)R^k][C(O)R^l]$, SR^k, halogen, CN, and NO_2;

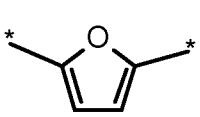
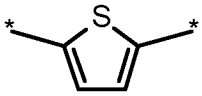
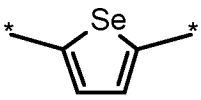
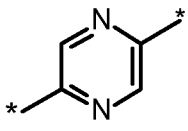
C_{6-14}-aryl and 5 to 14 membered heteroaryl can be substituted with one to five substituents independently selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^k, $OC(O)-R^l$, $C(O)-OR^k$, $C(O)-R^k$, NR^kR^l, $NR^k-C(O)R^l$, $C(O)-NR^kR^l$, $N[C(O)R^k][C(O)R^l]$, SR^k, halogen, CN, and NO_2;

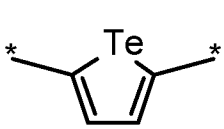
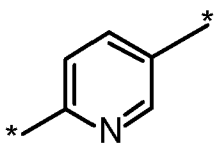
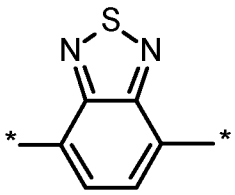
wherein
R^k and R^l are independently selected from the group consisting of H, C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl,
wherein
C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl can be substituted with one to five substituents selected from the group consisting of halogen, CN and NO_2.

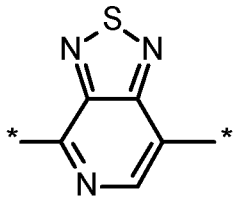
Even more preferably, L^1 and L^2 are independently from each other and at each occurrence selected from the group consisting of 5 to 20 membered heteroarylene,

and  ,

wherein 5 to 20 membered heteroarylene is selected from the group consisting of

 ,  ,  ,  ,

 ,  , 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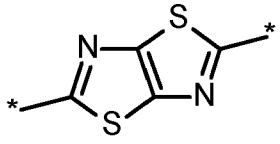
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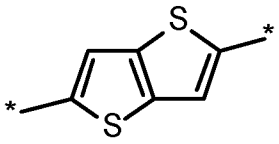
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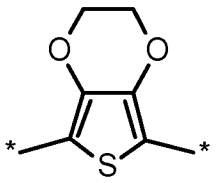
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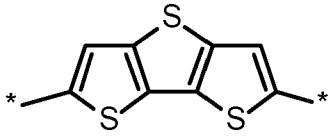
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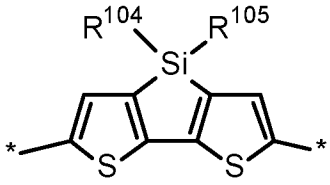
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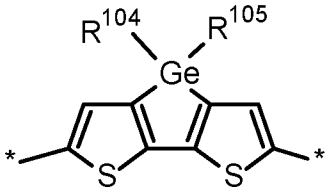
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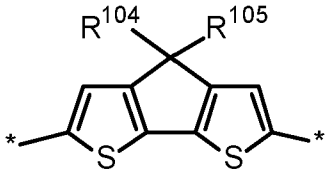
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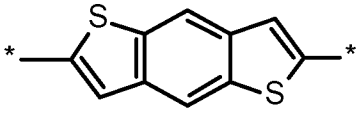
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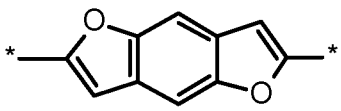
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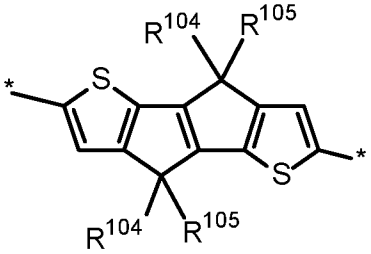
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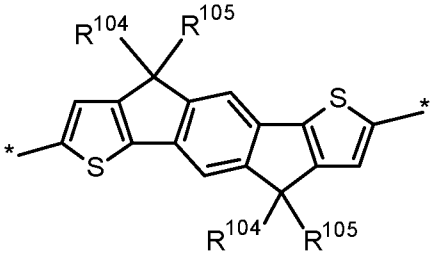
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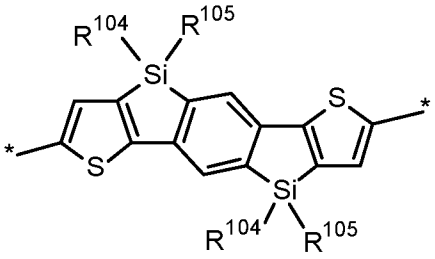

,

wherein

R^{104} and R^{105} are independently and at each occurrence selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, and 5 to 14 membered heteroaryl, or R^{104} and R^{105}, if attached to the same atom, together with the atom, to which they are attached, form a 5 to 12 membered ring system,

wherein

C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl can be substituted with one to five substituents selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^s, $OC(O)$-R^t, $C(O)$-OR^s, $C(O)$-R^s, NR^sR^t, NR^s-$C(O)R^t$, $C(O)$-NR^sR^t, $N[C(O)R^s][C(O)R^t]$, SR^s, halogen, CN, and NO_2;

C_{5-8}-cycloalkyl can be substituted with one to five substituents selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^s, $OC(O)$-R^t, $C(O)$-OR^s, $C(O)$-R^s, NR^sR^t, NR^s-$C(O)R^t$, $C(O)$-NR^sR^t, $N[C(O)R^s][C(O)R^t]$, SR^s, halogen, CN, and NO_2;

C_{6-14}-aryl and 5 to 14 membered heteroaryl can be substituted with one to five substituents independently selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^s, $OC(O)$-R^t, $C(O)$-OR^s, $C(O)$-R^s, NR^sR^t, NR^s-$C(O)R^t$, $C(O)$-NR^sR^t, $N[C(O)R^s][C(O)R^t]$, SR^s, halogen, CN, and NO_2;

5 to 12 membered ring system can be substituted with one to five substituents selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^s, $OC(O)$-R^t, $C(O)$-OR^s, $C(O)$-R^s, NR^sR^t, NR^s-$C(O)R^t$, $C(O)$-NR^sR^t, $N[C(O)R^s][C(O)R^t]$, SR^s, halogen, CN, and NO_2;

wherein

R^s and R^t are independently selected from the group consisting of H, C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl,

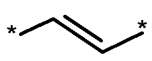
wherein

C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl can be substituted with one to five substituents selected from the group consisting of halogen, CN and NO_2,

wherein

5 to 20 membered heteroarylene can be substituted with one to six substituents R^3 at each occurrence selected from the group consisting of C_{1-30}-alkyl and halogen, and

wherein



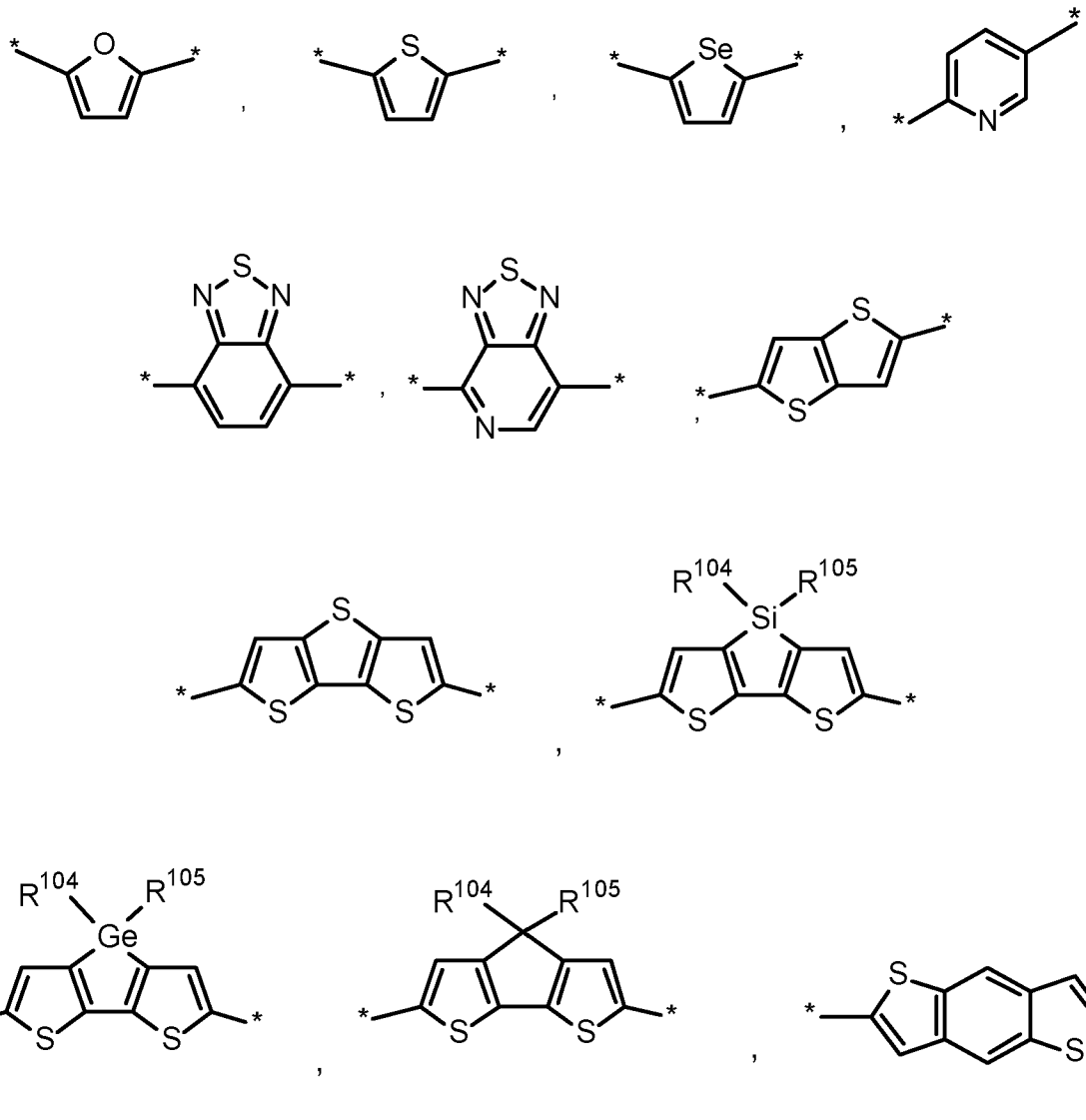
can be substituted with one or two substituents R^4 at each occurrence selected from the group consisting of C_{1-30}-alkyl, $C(O)$-R^{41}, $C(O)$-OR^{41} and CN,

wherein

R^{41} is at each occurrence C_{1-30}-alkyl.

Most preferably, L^1 and L^2 are independently from each other and at each occurrence 5 to 20 membered heteroarylene,

wherein 5 to 20 membered heteroarylene is selected from the group consisting of



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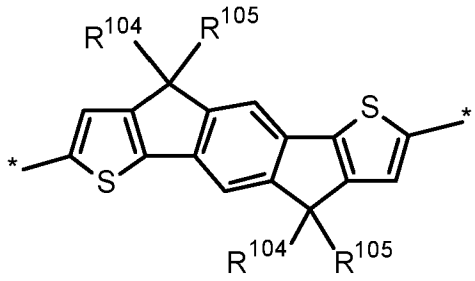
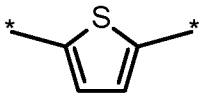
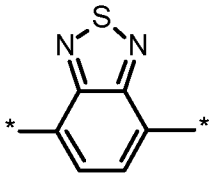
and 

wherein
R^{104} and R^{105} are independently and at each occurrence selected from the group consisting of H and C_{1-20}-alkyl,

wherein
5 to 20 membered heteroarylene can be substituted with one to six substituents R^3 at each occurrence selected from the group consisting of C_{1-30}-alkyl and halogen.

In particular, L^1 and L^2 are independently from each other and at each occurrence 5 to 20 membered heteroarylene,

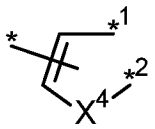
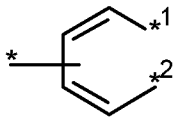
wherein 5 to 20 membered heteroarylene is selected from the group consisting of

 and 

wherein
5 to 20 membered heteroarylene is unsubstituted.

In preferred polymers comprising at least one unit of formula (1)
X^1, X^2 and X^3 are independently from each other O, S or NR^1,

A is selected from the group consisting of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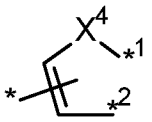
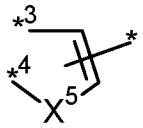
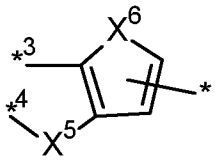
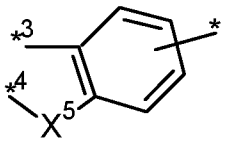
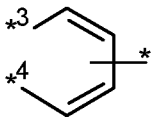
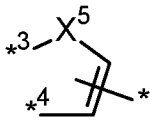
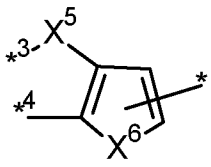


A1 , A2 A3 ,

B is selected from the group consisting of

B1 , B2 , B3 , B4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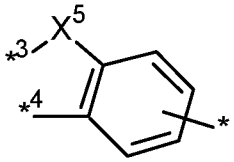


B5 , B6 B7

wherein
X^4, X^5 and X^6 are independently from each other O, S or NR^1,
A1, A2, A3, B1, B2, B3, B4, B5, B6 or B7 can be substituted with one to three substituents R^2,

R^1 is at each occurrence selected from the group consisting of C_{1-100}-alkyl, C_{2-100}-alkenyl and C_{2-100}-alkynyl,
wherein

C_{1-100}-alkyl, C_{2-100}-alkenyl and C_{2-100}-alkynyl can be substituted with one to fourty substituents independently selected from the group consisting of C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^a, $OC(O)-R^a$, $C(O)-OR^a$, $C(O)-R^a$, $NR^a-C(O)R^b$, $C(O)-NR^aR^b$, SR^a, $Si(R^{Sia})(R^{Sib})(R^{Sic})$, $-O-Si(R^{Sia})(R^{Sib})(R^{Sic})$, halogen, and CN; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-100}-alkyl, C_{2-100}-alkenyl and C_{2-100}-alkynyl can be replaced by O or S,

wherein
R^a and R^b are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl and 5 to 14 membered heteroaryl,

R^{Sia}, R^{Sib} and R^{Sic} are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, $-[O-SiR^{Sid}R^{Sie}]_o-R^{Sif}$,
wherein
o is an integer from 1 to 50,

R^{Sid}, R^{Sie} and R^{Sif} are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, $-[O-SiR^{Sig}R^{Sih}]_p-R^{Sii}$,
wherein
p is an integer from 1 to 50,
R^{Sig} R^{Sih}, R^{Sii} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, $O-Si(CH_3)_3$,

R^5, R^6, R^{50}, R^{60}, R^{500} and R^{600} are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, and 5 to 14 membered heteroaryl,

C_{1-60}-alkyl, C_{2-60}-alkenyl and C_{2-60}-alkynyl can be substituted with one to twenty substituents selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, OR^c, $OC(O)-R^c$, $C(O)-OR^c$, $C(O)-R^c$, $NR^c-C(O)R^d$, $C(O)-NR^cR^d$, SR^c, $Si(R^{Sij})(R^{Sik})(R^{Sil})$, $-O-Si(R^{Sij})(R^{Sik})(R^{Sil})$, halogen, and CN; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-60}-alkyl, C_{2-60}-alkenyl and C_{2-60}-alkynyl can be replaced by O or S,

C_{5-8}-cycloalkyl can be substituted with one to five substituents selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, OR^c, $OC(O)-R^c$, $C(O)-OR^c$, $C(O)-R^c$, $NR^c-C(O)R^d$, $C(O)-NR^cR^d$, SR^c, $Si(R^{Sij})(R^{Sik})(R^{Sil})$, $-O-Si(R^{Sij})(R^{Sik})(R^{Sil})$, halogen, and CN; and one or two CH_2-groups, but not adjacent CH_2-groups, of C_{5-8}-cycloalkyl can be replaced by O, S, OC(O), CO, NR^c or NR^c-CO,

C_{6-14}-aryl and 5 to 14 membered heteroaryl can be substituted with one to five substituents independently selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, OR^c, $OC(O)-R^c$, $C(O)-OR^c$, $C(O)-R^c$, $NR^c-C(O)R^d$, $C(O)-NR^cR^d$, SR^c, $Si(R^{Sij})(R^{Sik})(R^{Sil})$, $-O-Si(R^{Sij})(R^{Sik})(R^{Sil})$, halogen, and CN;

wherein

R^c and R^d are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl,

R^{Sij}, R^{Sik} and R^{Sil} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, $-[O-SiR^{Sim}R^{Sin}]_q-R^{Sio}$,

wherein

q is an integer from 1 to 50,

R^{Sim}, R^{Sin}, R^{Sio} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, $-[O-SiR^{Sip}R^{Siq}]_r-R^{Sir}$,

wherein

r is an integer from 1 to 50,

R^{Sip}, R^{Siq}, R^{Sir} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, $O-Si(CH_3)_3$,

R^7, R^8, R^{70}, R^{80}, R^{700} and R^{800} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, and 5 to 10 membered heteroaryl,

C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be substituted with one to ten substituents selected from the group consisting of halogen and CN,

R^2 is at each occurrence selected from the group consisting of C_{1-30}-alkyl and halogen,

wherein

C_{1-30}-alkyl can be substituted with one to ten substituents independently selected from the group consisting of C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^e, $OC(O)-R^e$, $C(O)-OR^e$, $C(O)-R^e$, NR^eR^f, $NR^e-C(O)R^f$, $C(O)-NR^eR^f$, $N[C(O)R^e][C(O)R^f]$, SR^e, halogen, CN, $SiR^{Sis}R^{Sit}R^{Siu}$ and NO_2; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-30}-alkyl can be replaced by O or S,

wherein

R^{Sis}, R^{Sit} and R^{Siu} are independently from each other selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl, phenyl and $O-Si(CH_3)_3$,

R^e and R^f are independently selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, and 5 to 14 membered heteroaryl,

wherein

C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl can be substituted with one to five substituents selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^g, $OC(O)-R^g$, $C(O)-OR^g$, $C(O)-R^g$, NR^gR^h, $NR^g-C(O)R^h$, $C(O)-NR^gR^h$, $N[C(O)R^g][C(O)R^h]$, SR^g, halogen, CN, and NO_2;

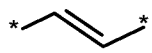
C_{5-8}-cycloalkyl can be substituted with one to five substituents selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^g, $OC(O)-R^g$, $C(O)-OR^g$, $C(O)-R^g$, NR^gR^h, $NR^g-C(O)R^h$, $C(O)-NR^gR^h$, $N[C(O)R^g][C(O)R^h]$, SR^g, halogen, CN, and NO_2;

C_{6-14}-aryl and 5 to 14 membered heteroaryl can be substituted with one to five substituents independently selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^g, $OC(O)-R^g$, $C(O)-OR^g$, $C(O)-R^g$, NR^gR^h, $NR^g-C(O)R^h$, $C(O)-NR^gR^h$, $N[C(O)R^g][C(O)R^h]$, SR^g, halogen, CN, and NO_2;

wherein
R^g and R^h are independently selected from the group consisting of H, C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl,
wherein
C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl can be substituted with one to five substituents selected from the group consisting of halogen, CN and NO_2,

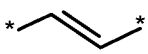
n is 0, 1, 2 or 3,
m is 0, 1, 2 or 3, and

L^1 and L^2 are independently from each other and at each occurrence selected from the group consisting of C_{6-18}-arylene, 5 to 20 membered heteroarylene,

and  ,

wherein
C_{6-18}-arylene and 5 to 20 membered heteroarylene can be substituted with one to six substituents R^3 at each occurrence selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl and 5 to 20 membered heteroaryl, OR^{31}, $OC(O)-R^{31}$, $C(O)-OR^{31}$, $C(O)-R^{31}$, $NR^{31}R^{32}$, $NR^{31}-C(O)R^{32}$, $C(O)-NR^{31}R^{32}$, SR^{31}, halogen, CN, $SiR^{Siv}R^{Siw}R^{Six}$ and OH, and

wherein



can be substituted with one or two substituents R^4 at each occurrence selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl and 5 to 20 membered heteroaryl, C(O)-R^{41}, C(O)-$NR^{41}R^{42}$, C(O)-OR^{41} and CN,

wherein
R^{31}, R^{32}, R^{41} und R^{42} are independently from each other and at each occurrence selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl and 5 to 20 membered heteroaryl, and

wherein
C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be substituted with one to ten substituents independently selected from the group consisting of C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^i, OC(O)-R^j, C(O)-OR^i, C(O)-R^i, NR^iR^j, NR^i-C(O)R^j, C(O)-NR^iR^j, N[C(O)R^i][C(O)R^j], SR^i, halogen, CN, $SiR^{Siv}R^{Siw}R^{Six}$ and NO_2; and at least two CH_2-groups, but not adjacent CH_2-groups of C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be replaced by O or S,

C_{5-12}-cycloalkyl can be substituted with one to six substituents independently selected from the group consisting of C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^i, OC(O)-R^j, C(O)-OR^i, C(O)-R^i, NR^iR^j, NR^i-C(O)R^j, C(O)-NR^iR^j, N[C(O)R^i][C(O)R^j], SR^i, halogen, CN, $SiR^{Siv}R^{Siw}R^{Six}$ and NO_2; and one or two CH_2-groups, but not adjacent CH_2-groups, of C_{5-12}-cycloalkyl can be replaced by O, S, OC(O), CO, NR^i or NR^i-CO,

C_{6-18}-aryl and 5 to 20 membered heteroaryl can be substituted with one to six substituents independently selected from the group consisting of C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^i, OC(O)-R^j, C(O)-OR^i, C(O)-R^i, NR^iR^j, NR^i-C(O)R^j, C(O)-NR^iR^j, N[C(O)R^i][C(O)R^j], SR^i, halogen, CN, $SiR^{Siv}R^{Siw}R^{Six}$ and NO_2,

wherein
R^{Siv}, R^{Siw}, R^{Six} are independently from each other selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl, phenyl and O-$Si(CH_3)_3$,

R^i and R^j are independently selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, and 5 to 14 membered heteroaryl,
wherein
C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl can be substituted with one to five substituents selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^k, OC(O)-R^l, C(O)-OR^k, C(O)-R^k, NR^kR^l, NR^k-C(O)R^l, C(O)-NR^kR^l, N[C(O)R^k][C(O)R^l], SR^k, halogen, CN, and NO_2;

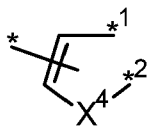
C_{5-8}-cycloalkyl can be substituted with one to five substituents selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^k, $OC(O)-R^l$, $C(O)-OR^k$, $C(O)-R^k$, NR^kR^l, $NR^k-C(O)R^l$, $C(O)-NR^kR^l$, $N[C(O)R^k][C(O)R^l]$, SR^k, halogen, CN, and NO_2;

C_{6-14}-aryl and 5 to 14 membered heteroaryl can be substituted with one to five substituents independently selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^k, $OC(O)-R^l$, $C(O)-OR^k$, $C(O)-R^k$, NR^kR^l, $NR^k-C(O)R^l$, $C(O)-NR^kR^l$, $N[C(O)R^k][C(O)R^l]$, SR^k, halogen, CN, and NO_2;

wherein
R^k and R^l are independently selected from the group consisting of H, C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl,
wherein
C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl can be substituted with one to five substituents selected from the group consisting of halogen, CN and NO_2.

In more preferred polymers comprising at least one unit of formula (**1**)
X^1, X^2 and X^3 are independently from each other S or NR^1,

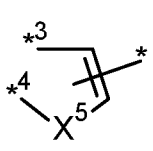
A is



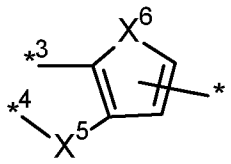
A1 ,

wherein
X^4 is S or NR^1, and
A1 can be substituted with one substituent R^2,

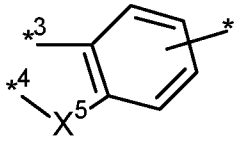
B is selected from the group consisting of



B1 ,



B2 and



B3

wherein
X^5 and X^6 are independently from each other S or NR^1, and
B1, B2 and B3 can be substituted with one to three substituents R^2,

R^1 is at each occurrence selected from the group consisting of C_{1-50}-alkyl, C_{2-50}-alkenyl and C_{2-50}-alkynyl,

wherein
C_{1-50}-alkyl, C_{2-50}-alkenyl and C_{2-50}-alkynyl can be substituted with one to twenty substituents independently selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^a, SR^a, $Si(R^{Sia})(R^{Sib})(R^{Sic})$, -O-$Si(R^{Sia})(R^{Sib})(R^{Sic})$, halogen, and CN; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-50}-alkyl, C_{2-50}-alkenyl and C_{2-50}-alkynyl can be replaced by O or S,

wherein
R^a and R^b are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl and C_{6-10}-aryl,

R^{Sia}, R^{Sib} and R^{Sic} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, $-[O\text{-}SiR^{Sid}R^{Sie}]_o\text{-}R^{Sif}$,
wherein
o is an integer from 1 to 50,

R^{Sid}, R^{Sie}, R^{Sif} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, $-[O\text{-}SiR^{Sig}R^{Sih}]_p\text{-}R^{Sii}$,
wherein
p is an integer from 1 to 50,

R^{Sig} R^{Sih}, R^{Sii} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, O-$Si(CH_3)_3$,

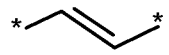
R^5, R^6, R^{50}, R^{60}, R^{500} and R^{600} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, and 5 to 10 membered heteroaryl,

C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be substituted with one to ten substituents selected from the group consisting of halogen and CN,

R^2 is at each occurrence selected from the group consisting of unsubstituted C_{1-30}-alkyl and halogen,

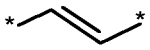
n is 0, 1 or 2,
m is 0, 1 or 2, and

L^1 and L^2 are independently from each other and at each occurrence selected from the group consisting of 5 to 20 membered heteroarylene,

and  ,

wherein
5 to 20 membered heteroarylene can be substituted with one to six substituents R^3 at each occurrence selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl and 5 to 20 membered heteroaryl, OR^{31}, $OC(O)$-R^{31}, $C(O)$-OR^{31}, $C(O)$-R^{31}, $NR^{31}R^{32}$, NR^{31}-$C(O)R^{32}$, $C(O)$-$NR^{31}R^{32}$, SR^{31}, halogen, CN, $SiR^{Siv}R^{Siw}R^{Six}$ and OH, and

wherein



can be substituted with one or two substituents R^4 at each occurrence selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl and 5 to 20 membered heteroaryl, $C(O)$-R^{41}, $C(O)$-$NR^{41}R^{42}$, $C(O)$-OR^{41} and CN,

wherein
R^{31}, R^{32}, R^{41} und R^{42} are independently from each other and at each occurrence selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl and 5 to 20 membered heteroaryl, and

wherein
C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be substituted with one to ten substituents independently selected from the group consisting of C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^i, $OC(O)$-R^j, $C(O)$-OR^i, $C(O)$-R^i, NR^iR^j, NR^i-$C(O)R^j$, $C(O)$-NR^iR^j, $N[C(O)R^i][C(O)R^j]$, SR^i, halogen, CN, $SiR^{Siv}R^{Siw}R^{Six}$ and NO_2; and at least two CH_2-groups, but not adjacent CH_2-groups of C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be replaced by O or S,

C_{5-12}-cycloalkyl can be substituted with one to six substituents independently selected from the group consisting of C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^i, $OC(O)$-R^j, $C(O)$-OR^i, $C(O)$-R^i, NR^iR^j, NR^i-$C(O)R^j$, $C(O)$-NR^iR^j, $N[C(O)R^i][C(O)R^j]$, SR^i, halogen, CN, $SiR^{Siv}R^{Siw}R^{Six}$ and NO_2; and one or two CH_2-groups, but not adjacent CH_2-groups, of C_{5-12}-cycloalkyl can be replaced by O, S, OC(O), CO, NR^i or NR^i-CO,

C_{6-18}-aryl and 5 to 20 membered heteroaryl can be substituted with one to six substituents independently selected from the group consisting of C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^i, $OC(O)-R^j$, $C(O)-OR^i$, $C(O)-R^i$, NR^iR^j, $NR^i-C(O)R^j$, $C(O)-NR^iR^j$, $N[C(O)R^i][C(O)R^j]$, SR^i, halogen, CN, $SiR^{Siv}R^{Siw}R^{Six}$ and NO_2,

wherein
R^{Siv}, R^{Siw}, R^{Six} are independently from each other selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl, phenyl and $O-Si(CH_3)_3$,

R^i and R^j are independently selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, and 5 to 14 membered heteroaryl,
wherein
C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl can be substituted with one to five substituents selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^k, $OC(O)-R^l$, $C(O)-OR^k$, $C(O)-R^k$, NR^kR^l, $NR^k-C(O)R^l$, $C(O)-NR^kR^l$, $N[C(O)R^k][C(O)R^l]$, SR^k, halogen, CN, and NO_2;

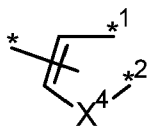
C_{5-8}-cycloalkyl can be substituted with one to five substituents selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^k, $OC(O)-R^l$, $C(O)-OR^k$, $C(O)-R^k$, NR^kR^l, $NR^k-C(O)R^l$, $C(O)-NR^kR^l$, $N[C(O)R^k][C(O)R^l]$, SR^k, halogen, CN, and NO_2;

C_{6-14}-aryl and 5 to 14 membered heteroaryl can be substituted with one to five substituents independently selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^k, $OC(O)-R^l$, $C(O)-OR^k$, $C(O)-R^k$, NR^kR^l, $NR^k-C(O)R^l$, $C(O)-NR^kR^l$, $N[C(O)R^k][C(O)R^l]$, SR^k, halogen, CN, and NO_2;

wherein
R^k and R^l are independently selected from the group consisting of H, C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl,
wherein
C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl can be substituted with one to five substituents selected from the group consisting of halogen, CN and NO_2.

In even more preferred polymers comprising at least one unit of formula (1)
X^1 is S, and X^2 and X^3 are NR^1,

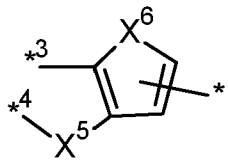
A is



A1 ,

wherein
X^4 is S or NR^1, and
A1 can be substituted with one substituent R^2,

B is



B2

wherein
X^5 and X^6 are independently from each other S or NR^1, and
B2 can be substituted with one substituent R^2,

R^1 is at each occurrence selected from the group consisting of C_{1-36}-alkyl, C_{2-36}-alkenyl and C_{2-36}-alkynyl,
wherein
C_{1-36}-alkyl, C_{2-36}-alkenyl and C_{2-36}-alkynyl can be substituted with one to twenty substituents independently selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^a, SR^a, $Si(R^{Sia})(R^{Sib})(R^{Sic})$, $-O-Si(R^{Sia})(R^{Sib})(R^{Sic})$, halogen, and CN; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-36}-alkyl, C_{2-36}-alkenyl and C_{2-36}-alkynyl can be replaced by O or S,

wherein
R^a and R^b are independently selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl and C_{6-10}-aryl

R^{Sia}, R^{Sib} and R^{Sic} are independently selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, $-[O-SiR^{Sid}R^{Sie}]_o-R^{Sif}$
wherein

o is an integer from 1 to 50,

R^{Sid}, R^{Sie}, R^{Sif} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, $-[O\text{-}SiR^{Sig}R^{Sih}]_p\text{-}R^{Sii}$,
wherein
p is an integer from 1 to 50,

R^{Sig} R^{Sih}, R^{Sii} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, $O\text{-}Si(CH_3)_3$,

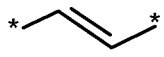
R^5, R^6, R^{50}, R^{60}, R^{500} and R^{600} are independently selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, and 5 to 10 membered heteroaryl,

C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl can be substituted with one to ten substituents selected from the group consisting of halogen and CN,

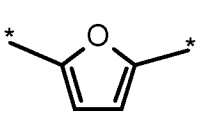
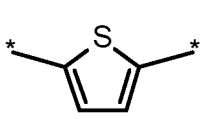
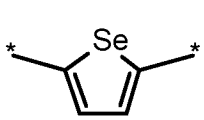
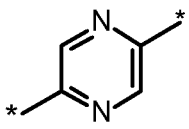
R^2 is at each occurrence selected from the group consisting of unsubstituted C_{1-30}-alkyl and halogen,

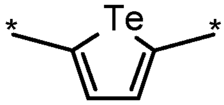
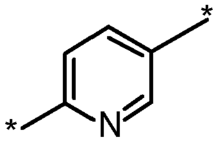
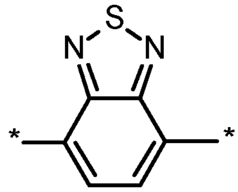
n is 0 or 1,
m is 0, 1 or 2, and

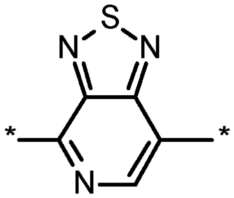
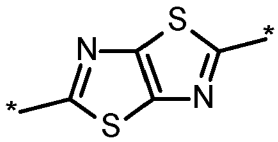
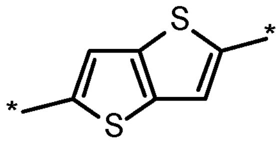
L^1 and L^2 are independently from each other and at each occurrence selected from the group consisting of 5 to 20 membered heteroarylene,

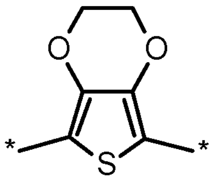
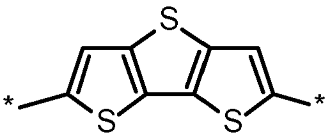
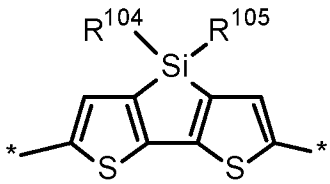
and  ,

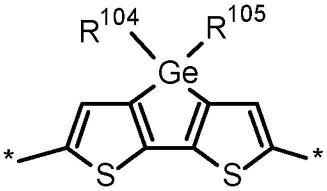
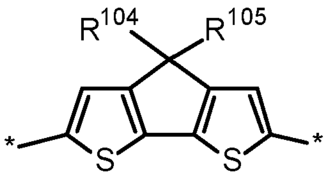
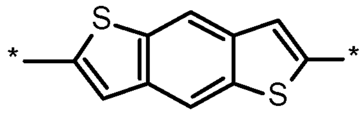
wherein 5 to 20 membered heteroarylene is selected from the group consisting of

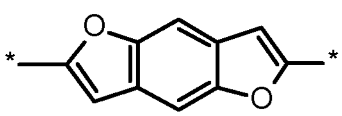
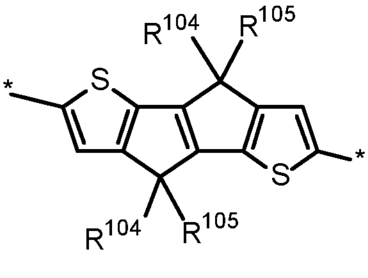
 ,  ,  ,  ,

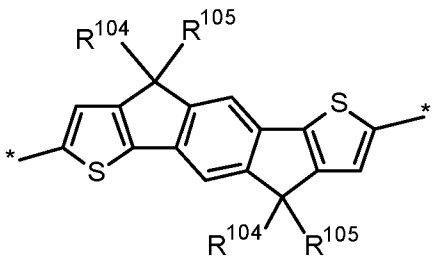
 ,  , 

 ,  , 

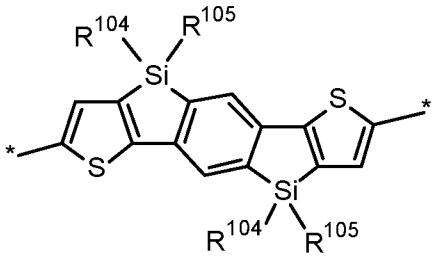
 ,  , 

 ,  ,  ,

 , 



and



wherein

R^{104} and R^{105} are independently and at each occurrence selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, and 5 to 14 membered heteroaryl, or R^{104} and R^{105}, if attached to the same atom, together with the atom, to which they are attached, form a 5 to 12 membered ring system,

wherein

C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl can be substituted with one to five substituents selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^s, $OC(O)$-R^t, $C(O)$-OR^s, $C(O)$-R^s, NR^sR^t, NR^s-$C(O)R^t$, $C(O)$-NR^sR^t, $N[C(O)R^s][C(O)R^t]$, SR^s, halogen, CN, and NO_2;

C_{5-8}-cycloalkyl can be substituted with one to five substituents selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^s, $OC(O)$-R^t, $C(O)$-OR^s, $C(O)$-R^s, NR^sR^t, NR^s-$C(O)R^t$, $C(O)$-NR^sR^t, $N[C(O)R^s][C(O)R^t]$, SR^s, halogen, CN, and NO_2;

C_{6-14}-aryl and 5 to 14 membered heteroaryl can be substituted with one to five substituents independently selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^s, $OC(O)$-R^t, $C(O)$-OR^s, $C(O)$-R^s, NR^sR^t, NR^s-$C(O)R^t$, $C(O)$-NR^sR^t, $N[C(O)R^s][C(O)R^t]$, SR^s, halogen, CN, and NO_2;

5 to 12 membered ring system can be substituted with one to five substituents selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^s, $OC(O)$-R^t, $C(O)$-OR^s, $C(O)$-R^s, NR^sR^t, NR^s-$C(O)R^t$, $C(O)$-NR^sR^t, $N[C(O)R^s][C(O)R^t]$, SR^s, halogen, CN, and NO_2;

wherein

R^s and R^t are independently selected from the group consisting of H, C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl,

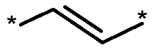
wherein

C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl can be substituted with one to five substituents selected from the group consisting of halogen, CN and NO_2,

wherein

5 to 20 membered heteroarylene can be substituted with one to six substituents R^3 at each occurrence selected from the group consisting of C_{1-30}-alkyl and halogen, and

wherein

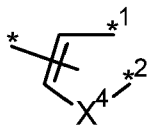


can be substituted with one or two substituents R^4 at each occurrence selected from the group consisting of C_{1-30}-alkyl, C(O)-R^{41}, C(O)-OR^{41} and CN,

wherein
R^{41} is at each occurrence C_{1-30}-alkyl.

In most preferred polymers comprising at least one unit of formula (1)
X^1 is S, and X^2 and X^3 are NR^1,

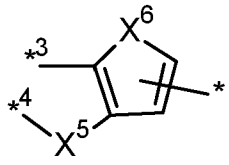
A is



A1 ,

wherein
X^4 is S and
A1 is not substituted,

B is



B2

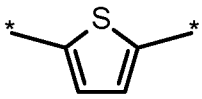
wherein
X^5 and X^6 are S, and
B2 is not substituted,

R^1 is at each occurrence unsubstituted C_{1-36}-alkyl,

n is 0,

m is 0, 1 or 2, and

L^1 and L^2 are independently from each other and at each occurrence 5 to 20 membered heteroarylene,
wherein 5 to 20 membered heteroarylene is selected from the group consisting of



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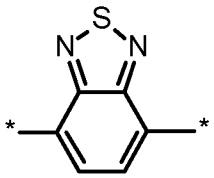
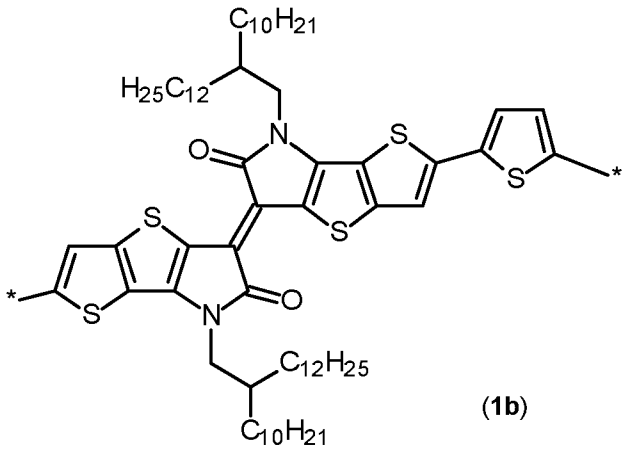
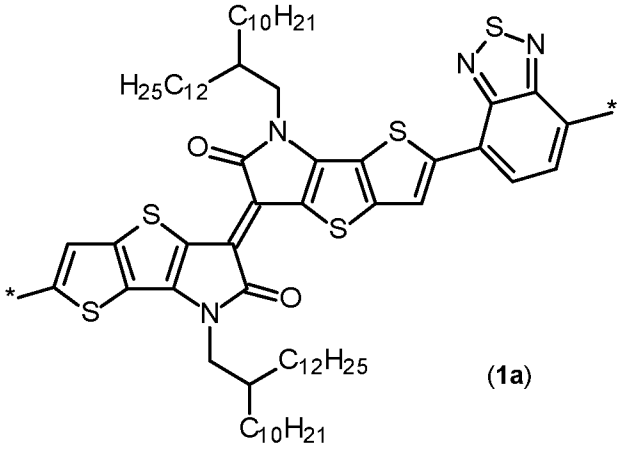


wherein
5 to 20 membered heteroarylene is unsubstituted.

Particular preferred polymers of the present invention comprise at least one unit of formula

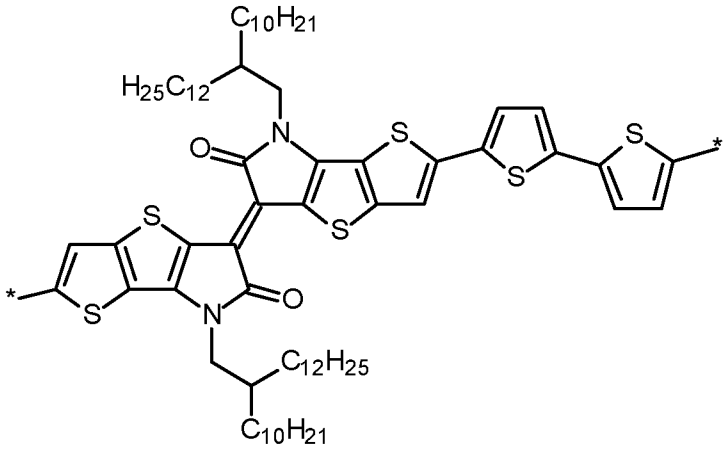


(**1b**)



(1a)

or

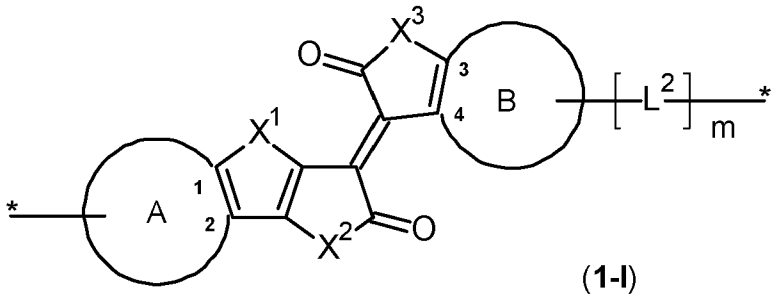


(1c)

The polymers of the present invention have preferably a weight average molecular weight (M_w) of 1 to 10000 kDa and a number average molecular weight (M_n) of 1 to 10000 kDa. The polymers of the present invention have more preferably a weight average molecular weight (M_w) of 1 to 1000 kDa and a number average molecular weight (M_n) of 1 to 100 kDa. The polymers of the present invention have most preferably a weight average molecular weight (M_w) of 10 to 100 kDa and a number average molecular weight (M_n) of 5 to 60 kDa. The weight average molecular weight (M_w) and the number average molecular weight (M_n) can be determined by gel permeation chromatography (GPC) at 80 °C using chlorobenzene as eluent and a polystyrene as standard.

The polymers of the present invention can be prepared by methods known in the art.

For examples, polymers of the present invention comprising at least one unit of formula (1), wherein n is 0 and which are of formula (1-I)

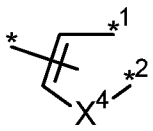


(**1-I**) ,

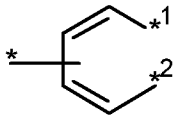
wherein

X^1, X^2 and X^3 are independently from each other O, S or NR^1,

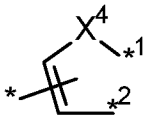
A is selected from the group consisting of



A1 ,

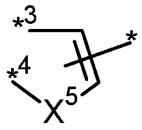


A2 and

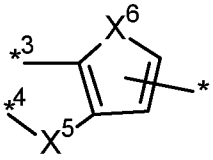


A3 ,

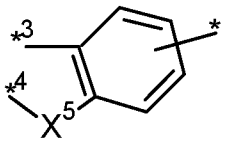
B is selected from the group consisting of



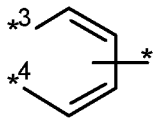
B1 ,



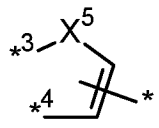
B2 ,



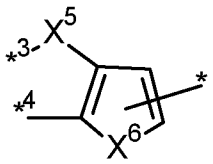
B3 ,



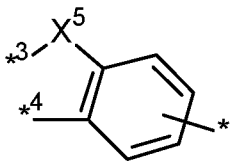
B4



B5 ,



B6 and



B7

wherein

X^4, X^5 and X^6 are independently from each other O, S or NR^1,

A1, A2, A3, B1, B2, B3, B4, B5, B6 or B7 can be substituted with one to three substituents R^2,

R^1 is at each occurrence selected from the group consisting of H, C_{1-100}-alkyl, C_{2-100}-alkenyl, C_{2-100}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl, a 5 to 20 membered heteroaryl, C(O)-C_{1-100}-alkyl, C(O)-C_{5-12}-cycloalkyl and C(O)-OC_{1-100}-alkyl,
wherein

C_{1-100}-alkyl, C_{2-100}-alkenyl and C_{2-100}-alkynyl can be substituted with one to fourty substituents independently selected from the group consisting of C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^a, OC(O)-R^a, C(O)-OR^a, C(O)-R^a, NR^aR^b, NR^a-C(O)R^b, C(O)-NR^aR^b, N[C(O)R^a][C(O)R^b], SR^a, Si(R^{Sia})(R^{Sib})(R^{Sic}), -O-Si(R^{Sia})(R^{Sib})(R^{Sic}), halogen, CN, and NO_2; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-100}-alkyl, C_{2-100}-alkenyl and C_{2-100}-alkynyl can be replaced by O or S,

C_{5-12}-cycloalkyl can be substituted with one to six substituents independently selected from the group consisting of C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^a, OC(O)-R^a, C(O)-OR^a, C(O)-R^a, NR^aR^b, NR^a-C(O)R^b, C(O)-NR^aR^b, N[C(O)R^a][C(O)R^b], SR^a, Si(R^{Sia})(R^{Sib})(R^{Sic}), -O-Si(R^{Sia})(R^{Sib})(R^{Sic}), halogen, CN, and NO_2; and one or two CH_2-groups, but not adjacent CH_2-groups, of C_{5-12}-cycloalkyl can be replaced by O, S, OC(O), CO, NR^a or NR^a-CO,

C_{6-18}-aryl and 5 to 20 membered heteroaryl can be substituted with one to six substituents independently selected from the group consisting of C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^a, OC(O)-R^a, C(O)-OR^a, C(O)-R^a, NR^aR^b, NR^a-C(O)R^b, C(O)-NR^aR^b, N[C(O)R^a][C(O)R^b], SR^a, Si(R^{Sia})(R^{Sib})(R^{Sic}), -O-Si(R^{Sia})(R^{Sib})(R^{Sic}), halogen, CN, and NO_2,

wherein
R^a and R^b are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl and 5 to 14 membered heteroaryl,

R^{Sia}, R^{Sib} and R^{Sic} are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, O-C_{1-60}-alkyl, O-C_{2-60}-alkenyl, O-C_{2-60}-alkynyl, O-C_{5-8}-cycloalkyl, O-C_{6-14}-aryl, O-5 to 14 membered heteroaryl, -[O-Si$R^{Sid}R^{Sie}$]$_o$-R^{Sif}, NR^5R^6, halogen and O-C(O)-R^5,
wherein
o is an integer from 1 to 50,

R^{Sid}, R^{Sie}, R^{Sif} are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl,

O-C_{1-60}-alkyl, O-C_{2-60}-alkenyl, O-C_{2-60}-alkynyl, O-C_{5-8}-cycloalkyl, O-C_{6-14}-aryl, O-5 to 14 membered heteroaryl, -[O-$SiR^{Sig}R^{Sih}]_p$-R^{Sii}, $NR^{50}R^{60}$, halogen and O-C(O)-R^{50};

wherein

p is an integer from 1 to 50,

R^{Sig} R^{Sih}, R^{Sii} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, O-C_{1-30}-alkyl, O-C_{2-30}-alkenyl, O-C_{2-30}-alkynyl, O-C_{5-6}-cycloalkyl, O-C_{6-10}-aryl, O-5 to 10 membered heteroaryl, O-$Si(CH_3)_3$, $NR^{500}R^{600}$, halogen and O-C(O)-R^{500},

R^5, R^6, R^{50}, R^{60}, R^{500} and R^{600} are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, and 5 to 14 membered heteroaryl,

C_{1-60}-alkyl, C_{2-60}-alkenyl and C_{2-60}-alkynyl can be substituted with one to twenty substituents selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, OR^c, OC(O)-R^c, C(O)-OR^c, C(O)-R^c, NR^cR^d, NR^c-C(O)R^d, C(O)-NR^cR^d, N[C(O)R^c][C(O)R^d], SR^c, $Si(R^{Sij})(R^{Sik})(R^{Sil})$, -O-$Si(R^{Sij})(R^{Sik})(R^{Sil})$, halogen, CN, and NO_2; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-60}-alkyl, C_{2-60}-alkenyl and C_{2-60}-alkynyl can be replaced by O or S,

C_{5-8}-cycloalkyl can be substituted with one to five substituents selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, OR^c, OC(O)-R^c, C(O)-OR^c, C(O)-R^c, NR^cR^d, NR^c-C(O)R^d, C(O)-NR^cR^d, N[C(O)R^c][C(O)R^d], SR^c, $Si(R^{Sij})(R^{Sik})(R^{Sil})$, -O-$Si(R^{Sij})(R^{Sik})(R^{Sil})$, halogen, CN, and NO_2; and one or two CH_2-groups, but not adjacent CH_2-groups, of C_{5-8}-cycloalkyl can be replaced by O, S, OC(O), CO, NR^c or NR^c-CO,

C_{6-14}-aryl and 5 to 14 membered heteroaryl can be substituted with one to five substituents independently selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, OR^c, OC(O)-R^c, C(O)-OR^c, C(O)-R^c, NR^cR^d, NR^c-C(O)R^d, C(O)-NR^cR^d, N[C(O)R^c][C(O)R^d], SR^c, $Si(R^{Sij})(R^{Sik})(R^{Sil})$, -O-$Si(R^{Sij})(R^{Sik})(R^{Sil})$, halogen, CN and NO_2;

wherein

R^c and R^d are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl,

R^{Sij}, R^{Sik} and R^{Sil} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, O-C_{1-30}-alkyl, O-C_{2-30}-alkenyl, O-C_{2-30}-alkynyl, O-C_{5-6}-cycloalkyl,

O-C_{6-10}-aryl, O-5 to 10 membered heteroaryl, -[O-$SiR^{Sim}R^{Sin}$]$_q$-R^{Sio}, NR^7R^8, halogen, and O-C(O)-R^7,

wherein

q is an integer from 1 to 50,

R^{Sim}, R^{Sin}, R^{Sio} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, O-C_{1-30}-alkyl, O-C_{2-30}-alkenyl, O-C_{2-30}-alkynyl, O-C_{5-6}-cycloalkyl, O-C_{6-10}-aryl, O-5 to 10 membered heteroaryl, -[O-$SiR^{Sip}R^{Siq}$]$_r$-R^{Sir}, $NR^{70}R^{80}$, halogen, and O-C(O)-R^{70};

wherein

r is an integer from 1 to 50,

R^{Sip}, R^{Siq}, R^{Sir} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, O-C_{1-30}-alkyl, O-C_{2-30}-alkenyl, O-C_{2-30}-alkynyl, O-C_{5-6}-cycloalkyl, O-C_{6-10}-aryl, O-5 to 10 membered heteroaryl, O-$Si(CH_3)_3$, $NR^{700}R^{800}$, halogen and O-C(O)-R^{700},

R^7, R^8, R^{70}, R^{80}, R^{700} and R^{800} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, and 5 to 10 membered heteroaryl,

C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be substituted with one to ten substituents selected from the group consisting of halogen, CN and NO_2,

R^2 is at each occurrence selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl, 5 to 20 membered heteroaryl, OR^{21}, OC(O)-R^{21}, C(O)-OR^{21}, C(O)-R^{21}, $NR^{21}R^{22}$, NR^{21}-C(O)R^{22}, C(O)-$NR^{21}R^{22}$, N[C(O)R^{21}][C(O)R^{22}], SR^{21}, halogen, CN, $SiR^{Sis}R^{Sit}R^{Siu}$ and OH,

wherein

R^{21} and R^{22} and are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl and 5 to 20 membered heteroaryl, and

C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be substituted with one to ten substituents independently selected from the group consisting of C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^e, OC(O)-R^e, C(O)-OR^e, C(O)-R^e, NR^eR^f, NR^e-C(O)R^f, C(O)-NR^eR^f, N[C(O)R^e][C(O)R^f], SR^e, halogen, CN, $SiR^{Sis}R^{Sit}R^{Siu}$ and NO_2; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be replaced by O or S,

C_{5-12}-cycloalkyl can be substituted with one to six substituents independently selected from the group consisting of C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^e, $OC(O)-R^e$, $C(O)-OR^e$, $C(O)-R^e$, NR^eR^f, $NR^e-C(O)R^f$, $C(O)-NR^eR^f$, $N[C(O)R^e][C(O)R^f]$, SR^e, halogen, CN, $SiR^{Sis}R^{Sit}R^{Siu}$ and NO_2; and one or two CH_2-groups, but not adjacent CH_2-groups, of C_{5-12}-cycloalkyl can be replaced by O, S, OC(O), CO, NR^e or NR^e-CO,

C_{6-18}-aryl and 5 to 20 membered heteroaryl can be substituted with one to six substituents independently selected from the group consisting of C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^e, $OC(O)-R^e$, $C(O)-OR^e$, $C(O)-R^e$, NR^eR^f, $NR^e-C(O)R^f$, $C(O)-NR^eR^f$, $N[C(O)R^e][C(O)R^f]$, SR^e, halogen, CN, $SiR^{Sis}R^{Sit}R^{Siu}$ and NO_2,

wherein

R^{Sis}, R^{Sit} and R^{Siu} are independently from each other selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl, phenyl and $O-Si(CH_3)_3$,

R^e and R^f are independently selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, and 5 to 14 membered heteroaryl,

wherein

C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl can be substituted with one to five substituents selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^g, $OC(O)-R^g$, $C(O)-OR^g$, $C(O)-R^g$, NR^gR^h, $NR^g-C(O)R^h$, $C(O)-NR^gR^h$, $N[C(O)R^g][C(O)R^h]$, SR^g, halogen, CN, and NO_2;

C_{5-8}-cycloalkyl can be substituted with one to five substituents selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^g, $OC(O)-R^g$, $C(O)-OR^g$, $C(O)-R^g$, NR^gR^h, $NR^g-C(O)R^h$, $C(O)-NR^gR^h$, $N[C(O)R^g][C(O)R^h]$, SR^g, halogen, CN, and NO_2;

C_{6-14}-aryl and 5 to 14 membered heteroaryl can be substituted with one to five substituents independently selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^g, $OC(O)-R^g$, $C(O)-OR^g$, $C(O)-R^g$, NR^gR^h, $NR^g-C(O)R^h$, $C(O)-NR^gR^h$, $N[C(O)R^g][C(O)R^h]$, SR^g, halogen, CN, and NO_2;

wherein

R^g and R^h are independently selected from the group consisting of H, C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl,

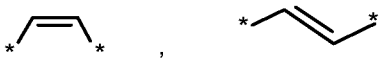
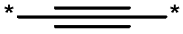
wherein

C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl can be substituted with one to five substituents selected from the group consisting of halogen, CN and NO_2,

m is 0, 1, 2 or 3,

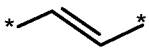
and

L^2 is at each occurrence selected from the group consisting of C_{6-18}-arylene, 5 to 20 membered heteroarylene,

 and  ,

wherein
C_{6-18}-arylene and 5 to 20 membered heteroarylene can be substituted with one to six substituents R^3 at each occurrence selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl and 5 to 20 membered heteroaryl, OR^{31}, $OC(O)$-R^{31}, $C(O)$-OR^{31}, $C(O)$-R^{31}, $NR^{31}R^{32}$, NR^{31}-$C(O)R^{32}$, $C(O)$-$NR^{31}R^{32}$, $N[C(O)R^{31}][C(O)R^{32}]$, SR^{31}, halogen, CN, $SiR^{Siv}R^{Siw}R^{Six}$ and OH, and

wherein

 and 

can be substituted with one or two substituents R^4 at each occurrence selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl and 5 to 20 membered heteroaryl, $C(O)$-R^{41}, $C(O)$-$NR^{41}R^{42}$, $C(O)$-OR^{41} and CN,

wherein
R^{31}, R^{32}, R^{41} und R^{42} are independently from each other and at each occurrence selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl and 5 to 20 membered heteroaryl, and

wherein
C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be substituted with one to ten substituents independently selected from the group consisting of C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^i, $OC(O)$-R^j, $C(O)$-OR^i, $C(O)$-R^i, NR^iR^j, NR^i-$C(O)R^j$, $C(O)$-NR^iR^j, $N[C(O)R^i][C(O)R^j]$, SR^i, halogen, CN, $SiR^{Siv}R^{Siw}R^{Six}$ and NO_2; and at least two CH_2-groups, but not adjacent CH_2-groups of C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be replaced by O or S,

C_{5-12}-cycloalkyl can be substituted with one to six substituents independently selected from the group consisting of C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^i, $OC(O)$-R^j, $C(O)$-OR^i, $C(O)$-R^i, NR^iR^j, NR^i-$C(O)R^j$, $C(O)$-NR^iR^j, $N[C(O)R^i][C(O)R^j]$, SR^i, halogen, CN, $SiR^{Siv}R^{Siw}R^{Six}$ and NO_2; and one or two CH_2-groups, but not adjacent CH_2-groups, of C_{5-12}-cycloalkyl can be replaced by O, S, OC(O), CO, NR^i or NR^i-CO,

C_{6-18}-aryl and 5 to 20 membered heteroaryl can be substituted with one to six substituents independently selected from the group consisting of C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^i, $OC(O)$-R^j, $C(O)$-OR^i, $C(O)$-R^i, NR^iR^j, NR^i-$C(O)R^j$, $C(O)$-NR^iR^j, $N[C(O)R^i][C(O)R^j]$, SR^i, halogen, CN, $SiR^{Siv}R^{Siw}R^{Six}$ and NO_2,

wherein
R^{Siv}, R^{Siw}, R^{Six} are independently from each other selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl, phenyl and O-$Si(CH_3)_3$,

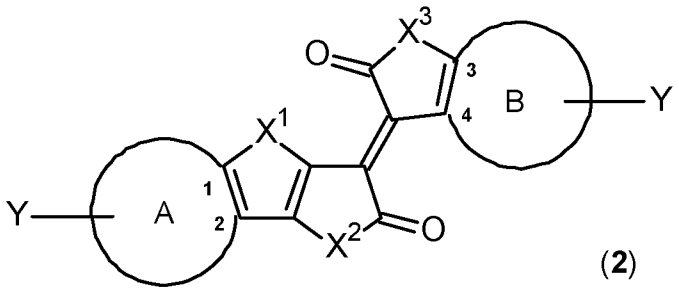
R^i and R^j are independently selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, and 5 to 14 membered heteroaryl,
wherein
C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl can be substituted with one to five substituents selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^k, $OC(O)$-R^l, $C(O)$-OR^k, $C(O)$-R^k, NR^kR^l, NR^k-$C(O)R^l$, $C(O)$-NR^kR^l, $N[C(O)R^k][C(O)R^l]$, SR^k, halogen, CN, and NO_2;

C_{5-8}-cycloalkyl can be substituted with one to five substituents selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^k, $OC(O)$-R^l, $C(O)$-OR^k, $C(O)$-R^k, NR^kR^l, NR^k-$C(O)R^l$, $C(O)$-NR^kR^l, $N[C(O)R^k][C(O)R^l]$, SR^k, halogen, CN, and NO_2;

C_{6-14}-aryl and 5 to 14 membered heteroaryl can be substituted with one to five substituents independently selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^k, $OC(O)$-R^l, $C(O)$-OR^k, $C(O)$-R^k, NR^kR^l, NR^k-$C(O)R^l$, $C(O)$-NR^kR^l, $N[C(O)R^k][C(O)R^l]$, SR^k, halogen, CN, and NO_2;

wherein
R^k and R^l are independently selected from the group consisting of H, C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl,
wherein
C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl can be substituted with one to five substituents selected from the group consisting of halogen, CN and NO_2,

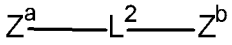
can be prepared by treating a compound of formula (2)



(2)

wherein Y is at each occurrence I, Br, Cl or O-S(O)$_2$CF$_3$, and X^1, X^2, X^3, A and B are as defined above,

with m mol equivalents of a compound of formula (3)

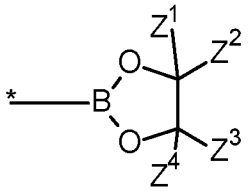


(3)

wherein

L^2 is as defined for the compound of formula (1-I), and

Z^a and Z^b are independently selected from the group consisting of B(OZ^1)(OZ^2), SnZ^{1}Z^{2}Z^3,



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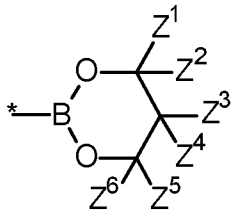
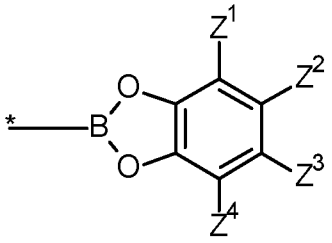
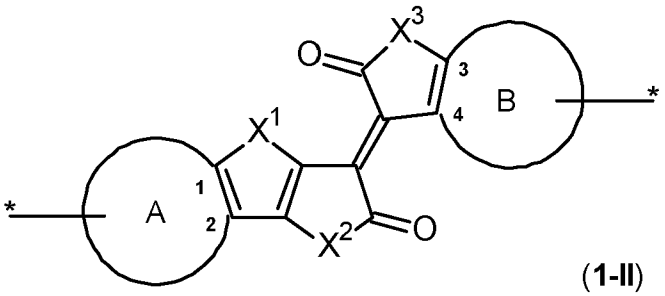


and



wherein Z^1, Z^2, Z^3, Z^4, Z^5 and Z^6 are independently from each other and at each occurrence H or C$_{1-4}$-alkyl.

For examples, polymers of the present invention comprising at least one unit of formula (1), wherein n and m are 0 and which are of formula (1-II)

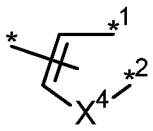


(**1-II**) ,

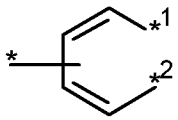
wherein

X^1, X^2 and X^3 are independently from each other O, S or NR^1,

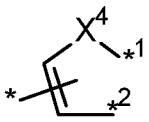
A is selected from the group consisting of



A1 ,

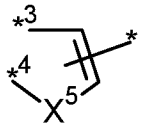


A2 and

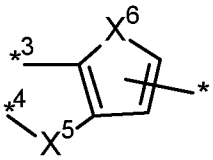


A3 ,

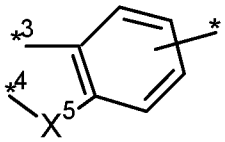
B is selected from the group consisting of



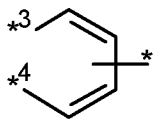
B1 ,



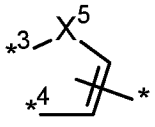
B2 ,



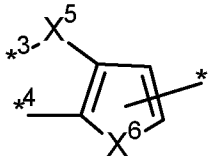
B3 ,



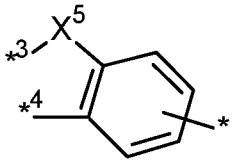
B4



B5 ,



B6 and



B7

wherein

X^4, X^5 and X^6 are independently from each other O, S or NR^1,

A1, A2, A3, B1, B2, B3, B4, B5, B6 or B7 can be substituted with one to three substituents R^2,

R^1 is at each occurrence selected from the group consisting of H, C_{1-100}-alkyl, C_{2-100}-alkenyl, C_{2-100}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl, a 5 to 20 membered heteroaryl, C(O)-C_{1-100}-alkyl, C(O)-C_{5-12}-cycloalkyl and C(O)-OC_{1-100}-alkyl,
wherein

C_{1-100}-alkyl, C_{2-100}-alkenyl and C_{2-100}-alkynyl can be substituted with one to fourty substituents independently selected from the group consisting of C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^a, OC(O)-R^a, C(O)-OR^a, C(O)-R^a, NR^aR^b, NR^a-C(O)R^b, C(O)-NR^aR^b, N[C(O)R^a][C(O)R^b], SR^a, Si(R^{Sia})(R^{Sib})(R^{Sic}), -O-Si(R^{Sia})(R^{Sib})(R^{Sic}), halogen, CN, and NO_2; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-100}-alkyl, C_{2-100}-alkenyl and C_{2-100}-alkynyl can be replaced by O or S,

C_{5-12}-cycloalkyl can be substituted with one to six substituents independently selected from the group consisting of C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^a, OC(O)-R^a, C(O)-OR^a, C(O)-R^a, NR^aR^b, NR^a-C(O)R^b, C(O)-NR^aR^b, N[C(O)R^a][C(O)R^b], SR^a, Si(R^{Sia})(R^{Sib})(R^{Sic}), -O-Si(R^{Sia})(R^{Sib})(R^{Sic}), halogen, CN, and NO_2; and one or two CH_2-groups, but not adjacent CH_2-groups, of C_{5-12}-cycloalkyl can be replaced by O, S, OC(O), CO, NR^a or NR^a-CO,

C_{6-18}-aryl and 5 to 20 membered heteroaryl can be substituted with one to six substituents independently selected from the group consisting of C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^a, OC(O)-R^a, C(O)-OR^a, C(O)-R^a, NR^aR^b, NR^a-C(O)R^b, C(O)-NR^aR^b, N[C(O)R^a][C(O)R^b], SR^a, Si(R^{Sia})(R^{Sib})(R^{Sic}), -O-Si(R^{Sia})(R^{Sib})(R^{Sic}), halogen, CN, and NO_2,

wherein
R^a and R^b are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl and 5 to 14 membered heteroaryl,

R^{Sia}, R^{Sib} and R^{Sic} are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, O-C_{1-60}-alkyl, O-C_{2-60}-alkenyl, O-C_{2-60}-alkynyl, O-C_{5-8}-cycloalkyl, O-C_{6-14}-aryl, O-5 to 14 membered heteroaryl, -[O-Si$R^{Sid}R^{Sie}$]$_o$-R^{Sif}, NR^5R^6, halogen and O-C(O)-R^5,
wherein
o is an integer from 1 to 50,

R^{Sid}, R^{Sie}, R^{Sif} are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl,

O-C_{1-60}-alkyl, O-C_{2-60}-alkenyl, O-C_{2-60}-alkynyl, O-C_{5-8}-cycloalkyl, O-C_{6-14}-aryl, O-5 to 14 membered heteroaryl, -[O-$SiR^{Sig}R^{Sih}$]$_p$-R^{Sii}, $NR^{50}R^{60}$, halogen and O-C(O)-R^{50};

wherein

p is an integer from 1 to 50,

R^{Sig} R^{Sih}, R^{Sii} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, O-C_{1-30}-alkyl, O-C_{2-30}-alkenyl, O-C_{2-30}-alkynyl, O-C_{5-6}-cycloalkyl, O-C_{6-10}-aryl, O-5 to 10 membered heteroaryl, O-$Si(CH_3)_3$, $NR^{500}R^{600}$, halogen and O-C(O)-R^{500},

R^5, R^6, R^{50}, R^{60}, R^{500} and R^{600} are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, and 5 to 14 membered heteroaryl,

C_{1-60}-alkyl, C_{2-60}-alkenyl and C_{2-60}-alkynyl can be substituted with one to twenty substituents selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, OR^c, OC(O)-R^c, C(O)-OR^c, C(O)-R^c, NR^cR^d, NR^c-C(O)R^d, C(O)-NR^cR^d, N[C(O)R^c][C(O)R^d], SR^c, $Si(R^{Sij})(R^{Sik})(R^{Sil})$, -O-$Si(R^{Sij})(R^{Sik})(R^{Sil})$, halogen, CN, and NO_2; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-60}-alkyl, C_{2-60}-alkenyl and C_{2-60}-alkynyl can be replaced by O or S,

C_{5-8}-cycloalkyl can be substituted with one to five substituents selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, OR^c, OC(O)-R^c, C(O)-OR^c, C(O)-R^c, NR^cR^d, NR^c-C(O)R^d, C(O)-NR^cR^d, N[C(O)R^c][C(O)R^d], SR^c, $Si(R^{Sij})(R^{Sik})(R^{Sil})$, -O-$Si(R^{Sij})(R^{Sik})(R^{Sil})$, halogen, CN, and NO_2; and one or two CH_2-groups, but not adjacent CH_2-groups, of C_{5-8}-cycloalkyl can be replaced by O, S, OC(O), CO, NR^c or NR^c-CO,

C_{6-14}-aryl and 5 to 14 membered heteroaryl can be substituted with one to five substituents independently selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, OR^c, OC(O)-R^c, C(O)-OR^c, C(O)-R^c, NR^cR^d, NR^c-C(O)R^d, C(O)-NR^cR^d, N[C(O)R^c][C(O)R^d], SR^c, $Si(R^{Sij})(R^{Sik})(R^{Sil})$, -O-$Si(R^{Sij})(R^{Sik})(R^{Sil})$, halogen, CN and NO_2;

wherein

R^c and R^d are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl,

R^{Sij}, R^{Sik} and R^{Sil} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, O-C_{1-30}-alkyl, O-C_{2-30}-alkenyl, O-C_{2-30}-alkynyl, O-C_{5-6}-cycloalkyl,

O-C_{6-10}-aryl, O-5 to 10 membered heteroaryl, -[O-$SiR^{Sim}R^{Sin}$]$_q$-R^{Sio}, NR^7R^8, halogen, and O-C(O)-R^7,

wherein

q is an integer from 1 to 50,

R^{Sim}, R^{Sin}, R^{Sio} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, O-C_{1-30}-alkyl, O-C_{2-30}-alkenyl, O-C_{2-30}-alkynyl, O-C_{5-6}-cycloalkyl, O-C_{6-10}-aryl, O-5 to 10 membered heteroaryl, -[O-$SiR^{Sip}R^{Siq}$]$_r$-R^{Sir}, $NR^{70}R^{80}$, halogen, and O-C(O)-R^{70};

wherein

r is an integer from 1 to 50,

R^{Sip}, R^{Siq}, R^{Sir} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, O-C_{1-30}-alkyl, O-C_{2-30}-alkenyl, O-C_{2-30}-alkynyl, O-C_{5-6}-cycloalkyl, O-C_{6-10}-aryl, O-5 to 10 membered heteroaryl, O-$Si(CH_3)_3$, $NR^{700}R^{800}$, halogen and O-C(O)-R^{700},

R^7, R^8, R^{70}, R^{80}, R^{700} and R^{800} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, and 5 to 10 membered heteroaryl,

C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be substituted with one to ten substituents selected from the group consisting of halogen, CN and NO_2, and

R^2 is at each occurrence selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl, 5 to 20 membered heteroaryl, OR^{21}, OC(O)-R^{21}, C(O)-OR^{21}, C(O)-R^{21}, $NR^{21}R^{22}$, NR^{21}-C(O)R^{22}, C(O)-$NR^{21}R^{22}$, N[C(O)R^{21}][C(O)R^{22}], SR^{21}, halogen, CN, $SiR^{Sis}R^{Sit}R^{Siu}$ and OH,

wherein

R^{21} and R^{22} and are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl and 5 to 20 membered heteroaryl, and

C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be substituted with one to ten substituents independently selected from the group consisting of C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^e, OC(O)-R^e, C(O)-OR^e, C(O)-R^e, NR^eR^f, NR^e-C(O)R^f, C(O)-NR^eR^f, N[C(O)R^e][C(O)R^f], SR^e, halogen, CN, $SiR^{Sis}R^{Sit}R^{Siu}$ and NO_2; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be replaced by O or S,

C_{5-12}-cycloalkyl can be substituted with one to six substituents independently selected from the group consisting of C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^e, $OC(O)$-R^e, $C(O)$-OR^e, $C(O)$-R^e, NR^eR^f, NR^e-$C(O)R^f$, $C(O)$-NR^eR^f, $N[C(O)R^e][C(O)R^f]$, SR^e, halogen, CN, $SiR^{Sis}R^{Sit}R^{Siu}$ and NO_2; and one or two CH_2-groups, but not adjacent CH_2-groups, of C_{5-12}-cycloalkyl can be replaced by O, S, OC(O), CO, NR^e or NR^e-CO,

C_{6-18}-aryl and 5 to 20 membered heteroaryl can be substituted with one to six substituents independently selected from the group consisting of C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^e, $OC(O)$-R^e, $C(O)$-OR^e, $C(O)$-R^e, NR^eR^f, NR^e-$C(O)R^f$, $C(O)$-NR^eR^f, $N[C(O)R^e][C(O)R^f]$, SR^e, halogen, CN, $SiR^{Sis}R^{Sit}R^{Siu}$ and NO_2,

wherein

R^{Sis}, R^{Sit} and R^{Siu} are independently from each other selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl, phenyl and O-$Si(CH_3)_3$,

R^e and R^f are independently selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, and 5 to 14 membered heteroaryl,

wherein

C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl can be substituted with one to five substituents selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^g, $OC(O)$-R^g, $C(O)$-OR^g, $C(O)$-R^g, NR^gR^h, NR^g-$C(O)R^h$, $C(O)$-NR^gR^h, $N[C(O)R^g][C(O)R^h]$, SR^g, halogen, CN, and NO_2;

C_{5-8}-cycloalkyl can be substituted with one to five substituents selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^g, $OC(O)$-R^g, $C(O)$-OR^g, $C(O)$-R^g, NR^gR^h, NR^g-$C(O)R^h$, $C(O)$-NR^gR^h, $N[C(O)R^g][C(O)R^h]$, SR^g, halogen, CN, and NO_2;

C_{6-14}-aryl and 5 to 14 membered heteroaryl can be substituted with one to five substituents independently selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^g, $OC(O)$-R^g, $C(O)$-OR^g, $C(O)$-R^g, NR^gR^h, NR^g-$C(O)R^h$, $C(O)$-NR^gR^h, $N[C(O)R^g][C(O)R^h]$, SR^g, halogen, CN, and NO_2;

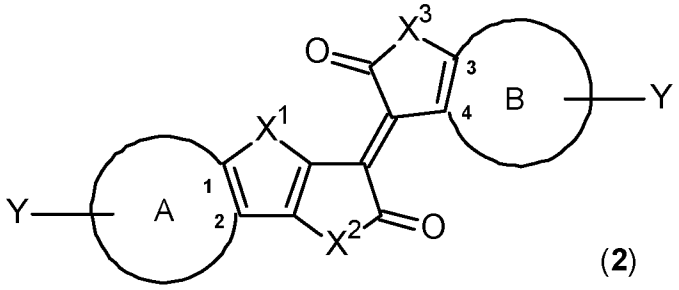
wherein

R^g and R^h are independently selected from the group consisting of H, C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl,

wherein

C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl can be substituted with one to five substituents selected from the group consisting of halogen, CN and NO_2,

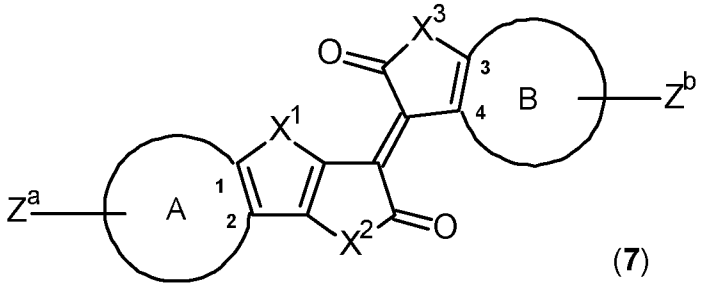
can be prepared by treating a compound of formula (**2**)



(**2**)

wherein Y is at each occurrence I, Br, Cl or O-S(O)$_2$CF$_3$, and X^1, X^2, X^3, A and B are as defined above,

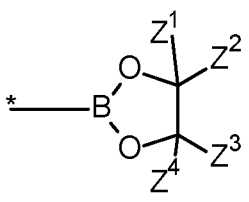
with a compound of formula (**7**)



(**7**)

wherein
X^1, X^2, X^3, A and B are as defined for the compound of formula (**1-II**), and

Z^a and Z^b are independently selected from the group consisting of $B(OZ^1)(OZ^2)$, $SnZ^1Z^2Z^3$,



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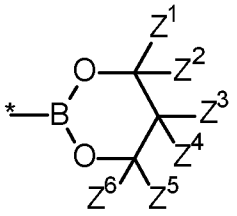
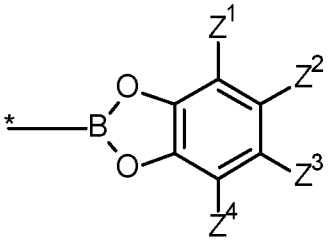
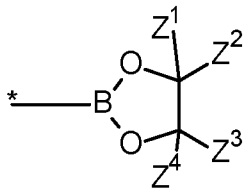


and



wherein Z^1, Z^2, Z^3, Z^4, Z^5 and Z^6 are independently from each other and at each occurence H or C_{1-4}-alkyl.

When Z^a and Z^b are independently selected from the group consisting of $B(OZ^1)(OZ^2)$,



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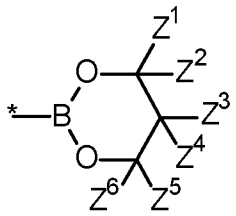
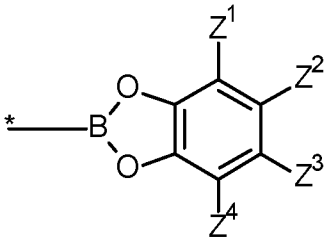


and



wherein Z^1, Z^2, Z^3, Z^4, Z^5 and Z^6 are independently from each other and at each occurrence H or C_{1-4}-alkyl,

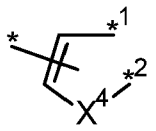
the reaction is usually performed in the presence of a catalyst, preferably a Pd catalyst such as $Pd(P(Ph)_3)_4$, $Pd(OAc)_2$ and $Pd_2(dba)_3$, and a base such as K_3PO_4, Na_2CO_3, K_2CO_3, LiOH and NaOMe. Depending on the Pd catalyst, the reaction may also require the presence of a phosphine ligand such as $P(Ph)_3$, $P(o\text{-tolyl})_3$ and $P(tert\text{-Bu})_3$. The reaction is also usually performed at elevated temperatures, such as at temperatures in the range of 40 to 250 °C, preferably 60 to 200 °C. The reaction can be performed in the presence of a suitable solvent such as tetrahydrofuran, toluene or chlorobenzene. The reaction is usually performed under inert gas.

When Z^a and Z^b are independently $SnZ^1Z^2Z^3$, wherein Z^1, Z^2 and Z^3 are independently from each other C_{1-4}-alkyl, the reaction is usually performed in the presence of a catalyst, preferably a Pd catalyst such as $Pd(P(Ph)_3)_4$ and $Pd_2(dba)_3$. Depending on the Pd catalyst, the reaction may also require the presence of a phosphine ligand such as $P(Ph)_3$, $P(o\text{-tolyl})_3$ and $P(tert\text{-Bu})_3$. The reaction is also usually performed at elevated temperatures, such as at temperatures in the range of 40 to 250 °C, preferably 60 to 200 °C. The reaction can be performed in the presence of a suitable solvent such as toluene or chlorobenzene. The reaction is usually performed under inert gas.

The compound of formula (2) can be prepared by methods known in the art.

For examples, compounds of formula (2), wherein
X^1 is S, and X^2 and X^3 are NR^1,

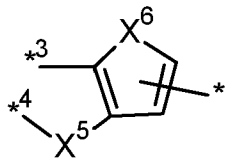
A is



A1 ,

wherein
X^4 is S and
A1 is not substituted,

B is

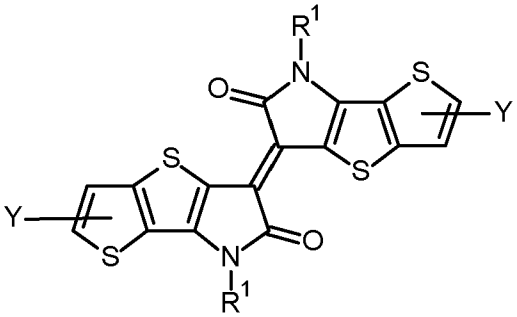


B2

wherein
X^5 and X^6 are S, and
B2 is not substituted, and

R^1 is at each occurrence unsubstituted C_{1-36}-alkyl,

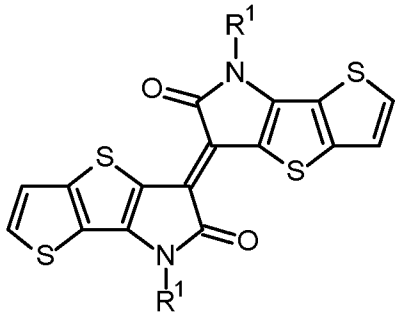
and which are of formula (2-I)



(2-I)

wherein Y is I, Br, Cl or O-triflate, and R^1 is at each occurrence unsubstituted C_{1-36}-alkyl,

can be prepared by treating a compound of formula (3)

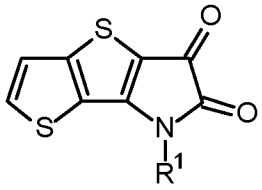


(3)

wherein R^1 is at each occurrence unsubstituted C_{1-36}-alkyl, with an Y-donor.

For example, when Y is Br, the Y-donor can be N-bromosuccinimide. When using N-bromosuccinimide as Y-donor, the reaction can be performed at 0 °C in the presence of THF as solvent.

A compound of formula (3), wherein R^1 is at each occurrence unsubstituted C_{1-36}-alkyl, can be prepared by treating a compound of formula (4)

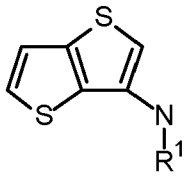


(4)

wherein R^1 is at each occurrence unsubstituted C_{1-36}-alkyl, with Lawesson's reagent.

The reaction is usually performed in a suitable solvent such as o-xylene and at a suitable temperature such as in the range of 40 to 100 °C.

A compound of formula (4), wherein R^1 is at each occurrence unsubstituted C_{1-36}-alkyl, can be prepared by treating a compound of formula (5)

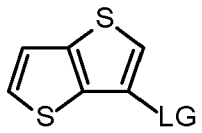


(5)

wherein R^1 is at each occurrence unsubstituted C_{1-36}-alkyl, with dioxalyl chloride.

The reaction is usually performed in a suitable solvent such as DCM and at a suitable temperature such as in the range of -40 to 0 °C.

The compound of formula (**5**), wherein R^1 is at each occurrence unsubstituted C_{1-36}-alkyl, can be prepared by treating a compound of formula (**6**)

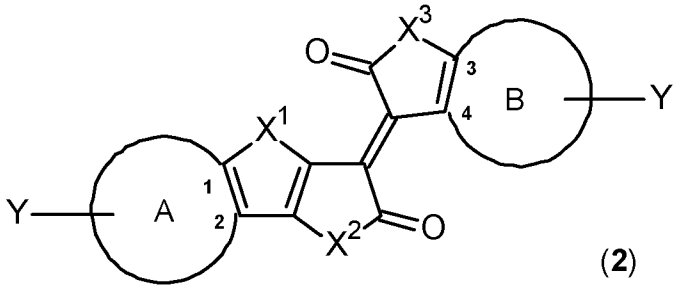


(**6**)

wherein LG is I, Br, Cl or F, with HNR^1.

The reaction is usually performed in the presence of a catalyst, preferably a copper catalyst. The reaction is usually performed at elevated temperatures such in the range of 40 to 160 °C.

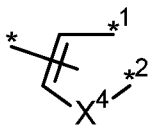
Also part of the invention are intermediates of formula



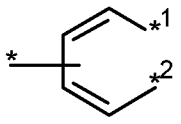
(**2**)

wherein
X^1, X^2 and X^3 are independently from each other O, S or NR^1,

A is selected from the group consisting of

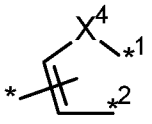


A1



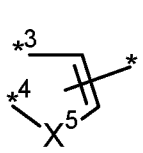
A2

and

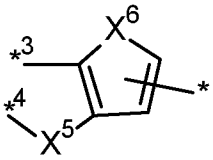


A3

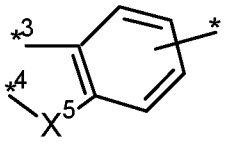
B is selected from the group consisting of



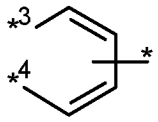
B1



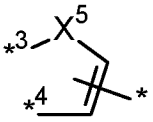
B2



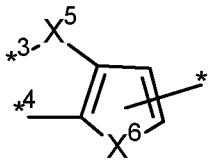
B3



B4

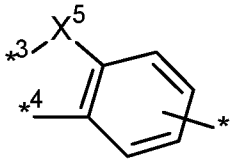


B5



B6

and



B7

wherein
X^4, X^5 and X^6 are independently from each other O, S or NR^1,
A1, A2, A3, B1, B2, B3, B4, B5, B6 or B7 can be substituted with one to three substituents R^2,

R^1 is at each occurrence selected from the group consisting of H, C_{1-100}-alkyl, C_{2-100}-alkenyl, C_{2-100}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl, a 5 to 20 membered heteroaryl, C(O)-C_{1-100}-alkyl, C(O)-C_{5-12}-cycloalkyl and C(O)-OC_{1-100}-alkyl,
wherein

C_{1-100}-alkyl, C_{2-100}-alkenyl and C_{2-100}-alkynyl can be substituted with one to fourty substituents independently selected from the group consisting of C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^a, OC(O)-R^a, C(O)-OR^a, C(O)-R^a, NR^aR^b, NR^a-C(O)R^b, C(O)-NR^aR^b, N[C(O)R^a][C(O)R^b], SR^a, $Si(R^{Sia})(R^{Sib})(R^{Sic})$, -O-$Si(R^{Sia})(R^{Sib})(R^{Sic})$, halogen, CN, and NO_2; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-100}-alkyl, C_{2-100}-alkenyl and C_{2-100}-alkynyl can be replaced by O or S,

C_{5-12}-cycloalkyl can be substituted with one to six substituents independently selected from the group consisting of C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^a, OC(O)-R^a, C(O)-OR^a, C(O)-R^a, NR^aR^b, NR^a-C(O)R^b, C(O)-NR^aR^b, N[C(O)R^a][C(O)R^b], SR^a, $Si(R^{Sia})(R^{Sib})(R^{Sic})$, -O-$Si(R^{Sia})(R^{Sib})(R^{Sic})$, halogen, CN, and NO_2; and one or two CH_2-groups, but not adjacent CH_2-groups, of C_{5-12}-cycloalkyl can be replaced by O, S, OC(O), CO, NR^a or NR^a-CO,

C_{6-18}-aryl and 5 to 20 membered heteroaryl can be substituted with one to six substituents independently selected from the group consisting of C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^a, $OC(O)-R^a$, $C(O)-OR^a$, $C(O)-R^a$, NR^aR^b, $NR^a-C(O)R^b$, $C(O)-NR^aR^b$, $N[C(O)R^a][C(O)R^b]$, SR^a, $Si(R^{Sia})(R^{Sib})(R^{Sic})$, $-O-Si(R^{Sia})(R^{Sib})(R^{Sic})$, halogen, CN, and NO_2,

wherein

R^a and R^b are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl and 5 to 14 membered heteroaryl,

R^{Sia}, R^{Sib} and R^{Sic} are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, $O-C_{1-60}$-alkyl, $O-C_{2-60}$-alkenyl, $O-C_{2-60}$-alkynyl, $O-C_{5-8}$-cycloalkyl, $O-C_{6-14}$-aryl, O-5 to 14 membered heteroaryl, $-[O-SiR^{Sid}R^{Sie}]_o-R^{Sif}$, NR^5R^6, halogen and $O-C(O)-R^5$,

wherein

o is an integer from 1 to 50,

R^{Sid}, R^{Sie}, R^{Sif} are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, $O-C_{1-60}$-alkyl, $O-C_{2-60}$-alkenyl, $O-C_{2-60}$-alkynyl, $O-C_{5-8}$-cycloalkyl, $O-C_{6-14}$-aryl, O-5 to 14 membered heteroaryl, $-[O-SiR^{Sig}R^{Sih}]_p-R^{Sii}$, $NR^{50}R^{60}$, halogen and $O-C(O)-R^{50}$;

wherein

p is an integer from 1 to 50,

R^{Sig} R^{Sih}, R^{Sii} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, $O-C_{1-30}$-alkyl, $O-C_{2-30}$-alkenyl, $O-C_{2-30}$-alkynyl, $O-C_{5-6}$-cycloalkyl, $O-C_{6-10}$-aryl, O-5 to 10 membered heteroaryl, $O-Si(CH_3)_3$, $NR^{500}R^{600}$, halogen and $O-C(O)-R^{500}$,

R^5, R^6, R^{50}, R^{60}, R^{500} and R^{600} are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, and 5 to 14 membered heteroaryl,

C_{1-60}-alkyl, C_{2-60}-alkenyl and C_{2-60}-alkynyl can be substituted with one to twenty substituents selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, OR^c, $OC(O)-R^c$, $C(O)-OR^c$, $C(O)-R^c$, NR^cR^d, $NR^c-C(O)R^d$, $C(O)-NR^cR^d$, $N[C(O)R^c][C(O)R^d]$, SR^c, $Si(R^{Sij})(R^{Sik})(R^{Sil})$, $-O-Si(R^{Sij})(R^{Sik})(R^{Sil})$, halogen, CN, and NO_2; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-60}-alkyl, C_{2-60}-alkenyl and C_{2-60}-alkynyl can be replaced by O or S,

C_{5-8}-cycloalkyl can be substituted with one to five substituents selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, OR^c, $OC(O)$-R^c, $C(O)$-OR^c, $C(O)$-R^c, NR^cR^d, NR^c-$C(O)R^d$, $C(O)$-NR^cR^d, $N[C(O)R^c][C(O)R^d]$, SR^c, $Si(R^{Sij})(R^{Sik})(R^{Sil})$, -O-$Si(R^{Sij})(R^{Sik})(R^{Sil})$, halogen, CN, and NO_2; and one or two CH_2-groups, but not adjacent CH_2-groups, of C_{5-8}-cycloalkyl can be replaced by O, S, OC(O), CO, NR^c or NR^c-CO,

C_{6-14}-aryl and 5 to 14 membered heteroaryl can be substituted with one to five substituents independently selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, OR^c, $OC(O)$-R^c, $C(O)$-OR^c, $C(O)$-R^c, NR^cR^d, NR^c-$C(O)R^d$, $C(O)$-NR^cR^d, $N[C(O)R^c][C(O)R^d]$, SR^c, $Si(R^{Sij})(R^{Sik})(R^{Sil})$, -O-$Si(R^{Sij})(R^{Sik})(R^{Sil})$, halogen, CN and NO_2;

wherein

R^c and R^d are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl,

R^{Sij}, R^{Sik} and R^{Sil} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, O-C_{1-30}-alkyl, O-C_{2-30}-alkenyl, O-C_{2-30}-alkynyl, O-C_{5-6}-cycloalkyl, O-C_{6-10}-aryl, O-5 to 10 membered heteroaryl, -$[O\text{-}SiR^{Sim}R^{Sin}]_q$-$R^{Sio}$, NR^7R^8, halogen, and O-$C(O)$-R^7,

wherein

q is an integer from 1 to 50,

R^{Sim}, R^{Sin}, R^{Sio} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, O-C_{1-30}-alkyl, O-C_{2-30}-alkenyl, O-C_{2-30}-alkynyl, O-C_{5-6}-cycloalkyl, O-C_{6-10}-aryl, O-5 to 10 membered heteroaryl, -$[O\text{-}SiR^{Sip}R^{Siq}]_r$-$R^{Sir}$, $NR^{70}R^{80}$, halogen, and O-$C(O)$-R^{70};

wherein

r is an integer from 1 to 50,

R^{Sip}, R^{Siq}, R^{Sir} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, O-C_{1-30}-alkyl, O-C_{2-30}-alkenyl, O-C_{2-30}-alkynyl, O-C_{5-6}-cycloalkyl, O-C_{6-10}-aryl, O-5 to 10 membered heteroaryl, O-$Si(CH_3)_3$, $NR^{700}R^{800}$, halogen and O-$C(O)$-R^{700},

R^7, R^8, R^{70}, R^{80}, R^{700} and R^{800} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, and 5 to 10 membered heteroaryl,

C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be substituted with one to ten substituents selected from the group consisting of halogen, CN and NO_2,

R^2 is at each occurrence selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl, 5 to 20 membered heteroaryl, OR^{21}, $OC(O)$-R^{21}, $C(O)$-OR^{21}, $C(O)$-R^{21}, $NR^{21}R^{22}$, NR^{21}-$C(O)R^{22}$, $C(O)$-$NR^{21}R^{22}$, $N[C(O)R^{21}][C(O)R^{22}]$, SR^{21}, halogen, CN, $SiR^{Sis}R^{Sit}R^{Siu}$ and OH,

wherein

R^{21} and R^{22} and are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl and 5 to 20 membered heteroaryl, and

C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be substituted with one to ten substituents independently selected from the group consisting of C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^e, $OC(O)$-R^e, $C(O)$-OR^e, $C(O)$-R^e, NR^eR^f, NR^e-$C(O)R^f$, $C(O)$-NR^eR^f, $N[C(O)R^e][C(O)R^f]$, SR^e, halogen, CN, $SiR^{Sis}R^{Sit}R^{Siu}$ and NO_2; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be replaced by O or S,

C_{5-12}-cycloalkyl can be substituted with one to six substituents independently selected from the group consisting of C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^e, $OC(O)$-R^e, $C(O)$-OR^e, $C(O)$-R^e, NR^eR^f, NR^e-$C(O)R^f$, $C(O)$-NR^eR^f, $N[C(O)R^e][C(O)R^f]$, SR^e, halogen, CN, $SiR^{Sis}R^{Sit}R^{Siu}$ and NO_2; and one or two CH_2-groups, but not adjacent CH_2-groups, of C_{5-12}-cycloalkyl can be replaced by O, S, $OC(O)$, CO, NR^e or NR^e-CO,

C_{6-18}-aryl and 5 to 20 membered heteroaryl can be substituted with one to six substituents independently selected from the group consisting of C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^e, $OC(O)$-R^e, $C(O)$-OR^e, $C(O)$-R^e, NR^eR^f, NR^e-$C(O)R^f$, $C(O)$-NR^eR^f, $N[C(O)R^e][C(O)R^f]$, SR^e, halogen, CN, $SiR^{Sis}R^{Sit}R^{Siu}$ and NO_2,

wherein

R^{Sis}, R^{Sit} and R^{Siu} are independently from each other selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl, phenyl and O-$Si(CH_3)_3$,

R^e and R^f are independently selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, and 5 to 14 membered heteroaryl, wherein

C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl can be substituted with one to five substituents selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^g, $OC(O)-R^g$, $C(O)-OR^g$, $C(O)-R^g$, NR^gR^h, $NR^g-C(O)R^h$, $C(O)-NR^gR^h$, $N[C(O)R^g][C(O)R^h]$, SR^g, halogen, CN, and NO_2;

C_{5-8}-cycloalkyl can be substituted with one to five substituents selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^g, $OC(O)-R^g$, $C(O)-OR^g$, $C(O)-R^g$, NR^gR^h, $NR^g-C(O)R^h$, $C(O)-NR^gR^h$, $N[C(O)R^g][C(O)R^h]$, SR^g, halogen, CN, and NO_2;

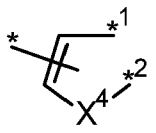
C_{6-14}-aryl and 5 to 14 membered heteroaryl can be substituted with one to five substituents independently selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^g, $OC(O)-R^g$, $C(O)-OR^g$, $C(O)-R^g$, NR^gR^h, $NR^g-C(O)R^h$, $C(O)-NR^gR^h$, $N[C(O)R^g][C(O)R^h]$, SR^g, halogen, CN, and NO_2;

wherein
R^g and R^h are independently selected from the group consisting of H, C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl,
wherein
C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl can be substituted with one to five substituents selected from the group consisting of halogen, CN and NO_2, and

Y is at each occurence I, Br, Cl or $O-S(O)_2CF_3$.

In preferred intermediates of formula (2)
X^1, X^2 and X^3 are independently from each other S or NR^1,

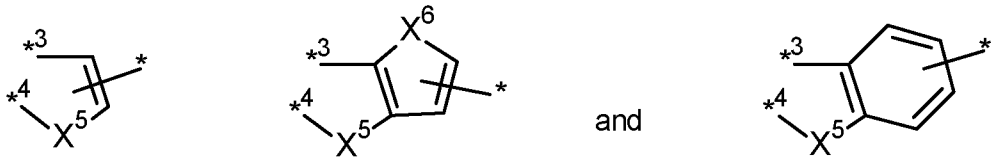
A is



A1 ,

wherein
X^4 is S or NR^1, and
A1 can be substituted with one substituent R^2,

B is selected from the group consisting of



B1 B2 B3

wherein
X^5 and X^6 are independently from each other S or NR^1, and
B1, B2 and B3 can be substituted with one to three substituents R^2,

R^1 is at each occurrence selected from the group consisting of C_{1-50}-alkyl, C_{2-50}-alkenyl and C_{2-50}-alkynyl,

wherein
C_{1-50}-alkyl, C_{2-50}-alkenyl and C_{2-50}-alkynyl can be substituted with one to twenty substituents independently selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^a, SR^a, $Si(R^{Sia})(R^{Sib})(R^{Sic})$, -O-$Si(R^{Sia})(R^{Sib})(R^{Sic})$, halogen, and CN; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-50}-alkyl, C_{2-50}-alkenyl and C_{2-50}-alkynyl can be replaced by O or S,

wherein
R^a and R^b are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl and C_{6-10}-aryl,

R^{Sia}, R^{Sib} and R^{Sic} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, $-[O\text{-}SiR^{Sid}R^{Sie}]_o\text{-}R^{Sif}$,
wherein
o is an integer from 1 to 50,

R^{Sid}, R^{Sie}, R^{Sif} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, $-[O\text{-}SiR^{Sig}R^{Sih}]_p\text{-}R^{Sii}$,
wherein
p is an integer from 1 to 50,

R^{Sig} R^{Sih}, R^{Sii} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, O-$Si(CH_3)_3$,

R^5, R^6, R^{50}, R^{60}, R^{500} and R^{600} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, and 5 to 10 membered heteroaryl,

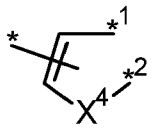
C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be substituted with one to ten substituents selected from the group consisting of halogen and CN,

R^2 is at each occurrence selected from the group consisting of unsubstituted C_{1-30}-alkyl and halogen, and

Y is at each occurence I, Br, Cl or $O\text{-}S(O)_2CF_3$.

In more preferred intermediates of formula (2)
X^1 is S, and X^2 and X^3 are NR^1,

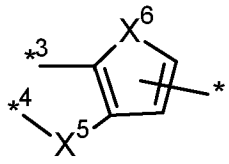
A is



A1 ,

wherein
X^4 is S or NR^1, and
A1 can be substituted with one substituent R^2,

B is



B2

wherein
X^5 and X^6 are independently from each other S or NR^1, and
B2 can be substituted with one substituent R^2,

R^1 is at each occurrence selected from the group consisting of C_{1-36}-alkyl, C_{2-36}-alkenyl and C_{2-36}-alkynyl,

wherein
C_{1-36}-alkyl, C_{2-36}-alkenyl and C_{2-36}-alkynyl can be substituted with one to twenty substituents independently selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^a, SR^a, $Si(R^{Sia})(R^{Sib})(R^{Sic})$, $-O-Si(R^{Sia})(R^{Sib})(R^{Sic})$, halogen, and CN; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-36}-alkyl, C_{2-36}-alkenyl and C_{2-36}-alkynyl can be replaced by O or S,

wherein
R^a and R^b are independently selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl and C_{6-10}-aryl

R^{Sia}, R^{Sib} and R^{Sic} are independently selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, $-[O-SiR^{Sid}R^{Sie}]_o-R^{Sif}$
wherein

o is an integer from 1 to 50,

R^{Sid}, R^{Sie}, R^{Sif} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, $-[O-SiR^{Sig}R^{Sih}]_p-R^{Sii}$,
wherein
p is an integer from 1 to 50,

R^{Sig} R^{Sih}, R^{Sii} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, $O-Si(CH_3)_3$,

R^5, R^6, R^{50}, R^{60}, R^{500} and R^{600} are independently selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, and 5 to 10 membered heteroaryl,

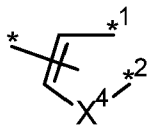
C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl can be substituted with one to ten substituents selected from the group consisting of halogen and CN,

R^2 is at each occurrence selected from the group consisting of unsubstituted C_{1-30}-alkyl and halogen, and

Y is at each occurence I, Br, Cl or $O-S(O)_2CF_3$.

In even more preferred intermediates of formula (2)
X^1 is S, and X^2 and X^3 are NR^1,

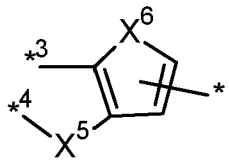
A is



A1 ,

wherein
X^4 is S and
A1 is not substituted,

B is



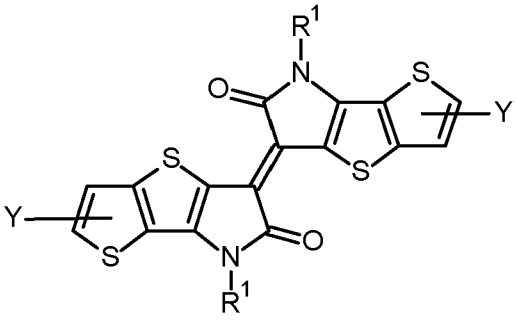
B2

wherein
X^5 and X^6 are S, and
B2 is not substituted,

R^1 is at each occurrence unsubstituted C_{1-36}-alkyl, and

Y is at each occurence I, Br, Cl or $O\text{-}S(O)_2CF_3$.

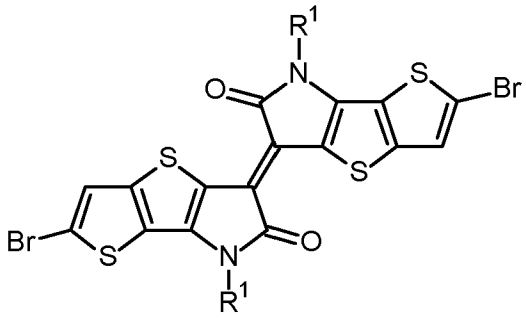
Most preferred intermediates of formula (2) are of formula (2-I)



(2-I)

wherein Y is at each occurence I, Br or O-S(O)$_2$CF$_3$, and R^1 is at each occurrence unsubstituted C$_{1-36}$-alkyl.

Particular preferred intermediate of formula (2) are of formula (2-II)



(2-II)

wherein, R^1 is at each occurrence unsubstituted C$_{1-36}$-alkyl.

Also part of the invention is an electronic device comprising the polymer of the present invention.

The electronic device can be an organic photovoltaic device (OPVs), an organic field-effect transistor (OFETs), an organic light emitting diode (OLEDs) or an organic photodiode (OPDs).

Preferably, the electronic device is an organic photovoltaic device (OPVs), an organic field-effect transistor (OFETs) or an organic photodiode (OPDs).

More preferably, the electronic device is an organic field effect transistor (OFET).

Usually, an organic field effect transistor comprises a dielectric layer, a semiconducting layer and a substrate. In addition, an organic field effect transistor usually comprises a gate electrode and source/drain electrodes.

Preferably, the semiconducting layer comprises the polymer of the present invention. The semiconducting layer can have a thickness of 5 to 500 nm, preferably of 10 to 100 nm, more preferably of 20 to 50 nm.

The dielectric layer comprises a dielectric material. The dielectric material can be silicon dioxide or aluminium oxide, or, an organic polymer such as polystyrene (PS), poly(methylmethacrylate) (PMMA), poly(4-vinylphenol) (PVP), poly(vinyl alcohol) (PVA), benzocyclobutene (BCB), or polyimide (PI). The dielectric layer can have a thickness of 10 to 2000 nm, preferably of 50 to 1000 nm, more preferably of 100 to 800 nm.

The dielectric layer can in addition to the dielectric material comprise a self-assembled monolayer of organic silane derivates or organic phosphoric acid derivatives. An example of an organic silane derivative is octyltrichlorosilane. An examples of an organic phosphoric acid derivative is octyldecylphosphoric acid. The self-assembled monolayer comprised in the dielectric layer is usually in contact with the semiconducting layer.

The source/drain electrodes can be made from any suitable organic or inorganic source/drain material. Examples of inorganic source/drain materials are gold (Au), silver (Ag) or copper (Cu), as well as alloys comprising at least one of these metals. The source/drain electrodes can have a thickness of 1 to 100 nm, preferably from 20 to 70 nm.

The gate electrode can be made from any suitable gate material such as highly doped silicon, aluminium (Al), tungsten (W), indium tin oxide or gold (Au), or alloys comprising at least one of these metals. The gate electrode can have a thickness of 1 to 200 nm, preferably from 5 to 100 nm.

The substrate can be any suitable substrate such as glass, or a plastic substrate such as polyethersulfone, polycarbonate, polysulfone, polyethylene terephthalate (PET) and polyethylene naphthalate (PEN). Depending on the design of the organic field effect transistor, the gate electrode, for example highly doped silicon can also function as substrate.

The organic field effect transistor can be prepared by methods known in the art.

For example, a bottom-gate top-contact organic field effect transistor can be prepared as follows: The dielectric material, for example Al_2O_3 or silicon dioxide, can be applied as a layer on a gate electrode such as highly doped silicon wafer, which also functions as substrate, by a suitable deposition method such as atom layer deposition or thermal evaporation. A self-assembled monolayer of an organic phosphoric acid derivative or an organic silane derivative can be applied to the layer of the dielectric material. For example, the organic phosphoric acid derivative or the organic silane derivative can be applied from solution using solution-deposition techniques. The semiconducting layer can be formed by either solution deposition or thermal evaporation in *vacuo* of the polymer of the present invention on the self-assembled monolayer of the organic phosphoric acid derivative or the organic silane derivative. Source/drain electrodes can be formed by deposition of a suitable source/drain material, for example tantalum (Ta) and/or gold (Au), on the semiconducting layer through a shadow masks. The channel width (W) is typically 50 μm and the channel length (L) is typically 1000 μm.

For example, a top-gate bottom-contact organic field effect transistor can be prepared as follows: Sorce/drain electrodes can be formed by evaporating a suitable source/drain material, for example gold (Au), on photo-lithographically defined electrodes on a suitable substrate, for example a glass substrate. The semiconducting layer can be formed by depositing a solution of the polymers of the present invention, for example by spin-coating, on the source/drain elec-

trodes, followed by annealing the layer at elevated temperatures such as at a temperature in the range of 80 to 360 °C. After quenching the semiconducting layer, a dielectric layer can be formed by applying, for example, by spin-coating, a solution of a suitable dielectric material such as poly(methylmethacryate), on the semiconducting layer. The gate electrode of a suitable source/drain material, for example gold (Au), can be evaporated through a shadow mask on the dielectric layer.

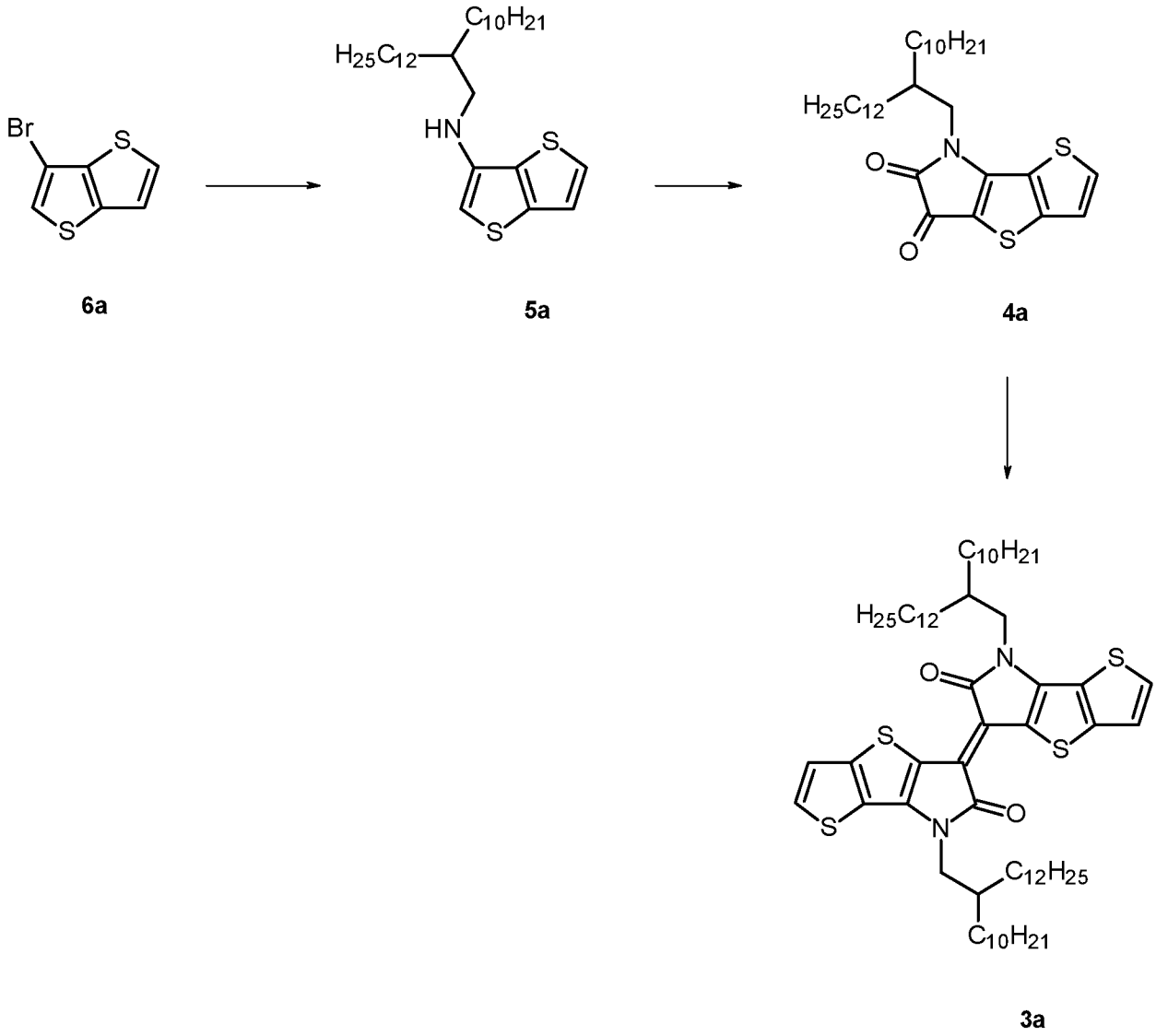
Also part of the invention is the use of the polymer of the present invention as semiconducting material.

The polymers of the present invention show high charge carrier mobilities. The polymer of the present invention can show ambipolar properties with high hole and electron mobilities. In addition, the polymers of the present invention show a high stability, in particular a high thermal stability. Furthermore the polymers of the present invention are compatible with liquid processing techniques. In addition, the poymers of the present invention show a strong absorption of the near infra-red light.

Examples

Example 1

Preparation of compound **3a**



6a **5a** **4a**

3a

*Preparation of compound **5a***

Compound **6a** (5.00 g, 22.82 mmol, 1 equiv.), copper (0.07 g, 1.14 mmol, 5 mol%) copper(I)-iodide (0.22 g, 1.14 mmol, 5 mol%), potassium phosphate tribasic (9.69g, 45.64 mmol, 2 equiv.) and 2-decyltetradecyl amine (12.11 g, 34.23 mmol, 1.5 equiv.) were heated with stirring in dimethyl aminoethanol (50 mL) at 80 °C for 48 hours. Upon cooling to room temperature, water and hexane were added. The aqueous layer was extracted several times with hexanes. The organic layers were combined, dried over $MgSO_4$ and the solvent was removed by rotary evaporation. The crude product was passed through a small silica column using hexane as solvent to afford compound **5a** as brown oil (1.74 g, 3.54 mmol, 15.5 %). ^1H NMR (400 MHz, $CDCl_3$); δ 7.36 (dd,

J = 5.3, 1.4 Hz, 1H), 6.05 (d, 1H, *J* = 2.1 Hz), 3.56 (s, 1H), 3.13 (d, *J* = 6.1 Hz, 2H), 1.29 (bm, 40H), 0.91 (m, 6H).

*Preparation of compound **4a***

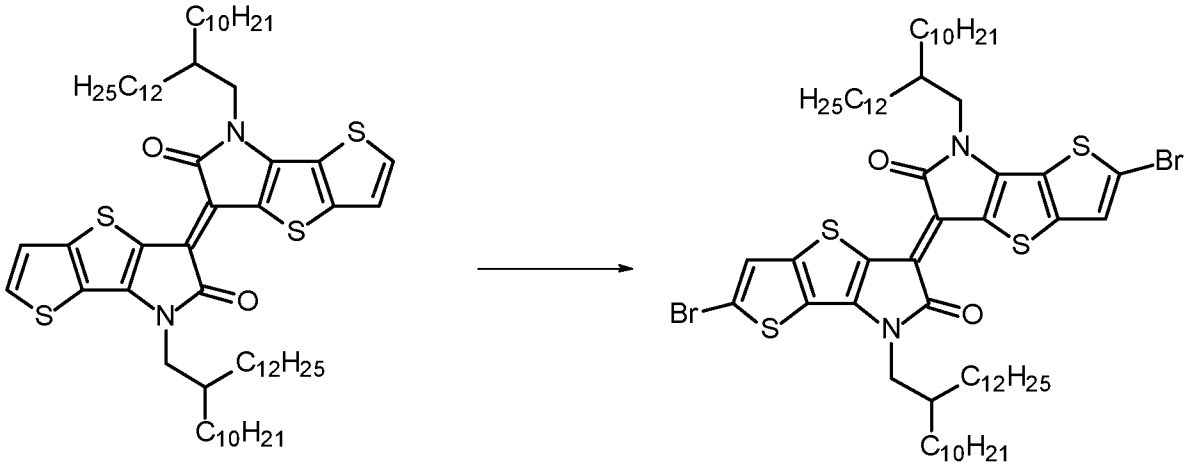
Dioxalyl chloride (0.50g, 3.96 mmol, 1.3 equiv.) in DCM (10 mL) was added dropwise to a stirred solution of compound **5a** (1.50 g, 3.05 mmol, 1 equiv.) in DCM (20 mL) at -10 °C. After thirty minutes of stirring at -10 °C, triethylamine (1.39 g, 13.72, 4.5 equiv.) was added and the solution was allowed to warm to room temperature overnight. Solvent and excess triethylamine were removed by rotary evaporation and the crude compound **4a** was purified by column chromatography on silica with DCM as the eluent to afford the compound **4a** as bright red solid (0.68g, 1.24 mmol, 41%). ^{1}H NMR (400 MHz, $CDCl_3$); δ 7.85 (d, *J* = 5.3 Hz, 1H), 7.37 (d, *J* = 5.1 Hz, 1H), 3.68 (d, *J* = 7.7 Hz, 2H), 1.9 (m, 1H), 1.25 (bm, 40H), 0.88 (m, 6H).

*Preparation of compound **3a***

A solution of compound **4a** (0.60g, 0.57 mmol, 1 equiv.) and Lawesson's reagent (0.11 g, 0.28 mmol, 0.5 equiv.) in *o*-xylene (20 mL) were heated at 60 °C for 2 hours. After cooling to room temperature the solvent was removed by rotary evaporation and the crude product purified by column chromatography on silica with hexane : DCM (3 : 1) as the eluent to afford compound **3a** as a bright green solid (0.37g, 0.35 mmol, 32%). ^{1}H NMR (400 MHz, $CDCl_3$); δ 7.52 (d, *J* = 5.2 Hz, 2H), 7.32 (d, *J* = 5.2 Hz, 2H), 3.85 (d, *J* = 7.7 Hz, 4H), 2.04 (m, 2H), 1.24 (bm, 80H), 0.90 (m, 12H).

Example 2

Preparation of compound **2a**



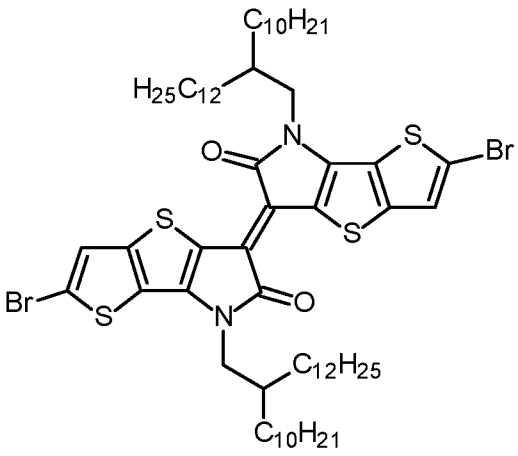
3a **2a**

N-bromosuccinimide (0.12 g, 0.69 mmol, 2.1 equiv.) in THF (1 mL) was added to a stirred solution of compound **3a** (0.35 g, 0.33 mmol, 1 equiv.) in THF (20 mL) at 0 °C. The reaction was monitored by TLC and quenched with water after half an hour, the product was extracted with

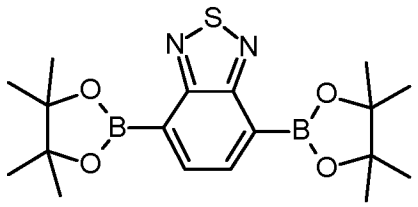
ethyl acetate and the aqueous layer extracted several times with ethyl acetate. The organic layers were combined, dried over $MgSO_4$ and the solvent removed by rotary evaporation to afford the crude compound **2a** which was purified by column chromatography on silica using hexane : DCM (3:1) as the eluent to afford the compound **2a** as dark green solid (0.31g, 0.26 mmol, 77%). ^1H NMR (400 MHz, d_2-TCE); δ 7.35 (s, 2H), 3.80 (d, *J* = 7.7 Hz, 4H), 1.96 (m, 2H), 1.27 (bm 80H), 0.93 (m, 12H).

Example 3

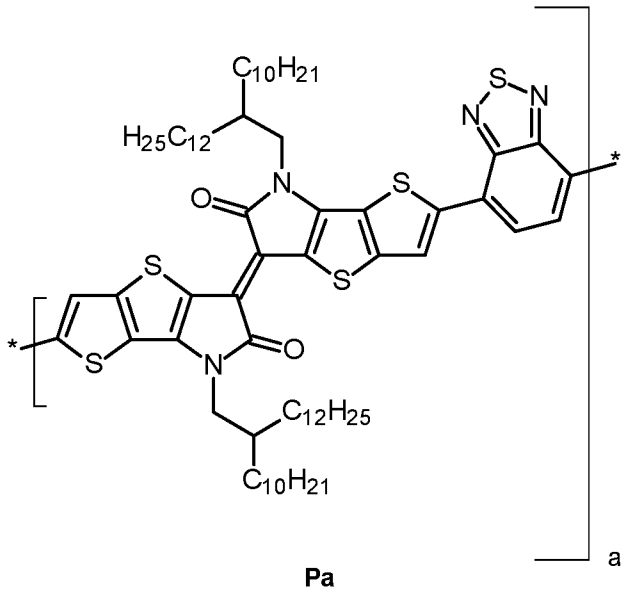
Preparation of polymer **Pa**



2a



(**3a**)



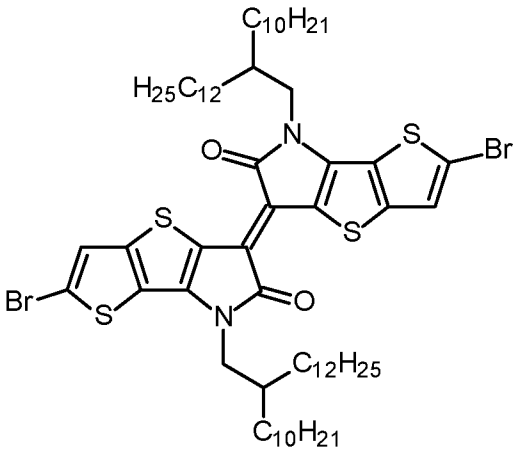
Pa

Compound **2a** (70 mg, 0.06 mmol, 1 equiv.) and 4,7-bis(4,4,5,5-tetramethyl-1,3,2-dioxabrolan-2-yl)benzothiadiazole (**3a**) (22 mg, 0.06 mmol, 1 equiv.) were added to a microwave vial. A thoroughly degassed solution of Aliquat 336 (1 drop) in toluene (1.5 mL) was subsequently added

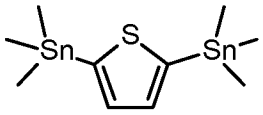
and the solution was further degassed with stirring for 30 minutes. $Pd(P(Ph)_3)_4$ (3 mg) was added and the solution was again degassed for 30 minutes. The microwave vial was sealed and heated to 80 °C with stirring and then 2M Na_2CO_3(aq) (0.3 mL) were added. The biphasic mixture was then heated with vigorous stirring at 120 °C for 3 days. After cooling to room temperature the contents of the microwave vial were poured into vigorously stirred methanol and the resulting polymeric precipitate was filtered. The filtrate was purified by Soxhlet extraction first with acetone (24h), second with hexane (24h), and third with chloroform (24h). The chloroform fraction was stirred vigorously with aqueous sodium diethyldithiocarbamate at 60 °C for 2 hours to remove any residual catalytic metal impurities, after which the chloroform layer was separated and the solvent removed by rotary evaporation. The obtained polymeric material was purified further by recycling gel permeation chromatography (GPC) in chlorobenzene to afford the polymer **Pa** (45 mg, 57%) as dark purple/black solid. GPC (chlorobenzene, 80 °C, polystyrene standard): M_n = 17 kDa, M_w = 27 kDa, PDI = 1.6. UV-VIS-absorption spectrum: λ_{max}: 926 nm (film) and 914 nm (solution). HOMO as determined by photoelectron spectroscopy in air (UV-PESA): -4.9 eV. HOMO as calculated by DFT/TD-DFT with a B3LYP/6-31g* basis set: -4.7 eV. LUMO as determined from absorption onset in thin film UV-VIS spectra: -3.8 eV. LUMO as calculated by DFT/TD-DFT with a B3LYP/6-31g* basis set: -3.5 eV. Eg as observed: 1.1 eV. Eg as calculated by DFT/TD-DFT with a B3LYP/6-31g* basis set: 1.2 eV.

Example 4

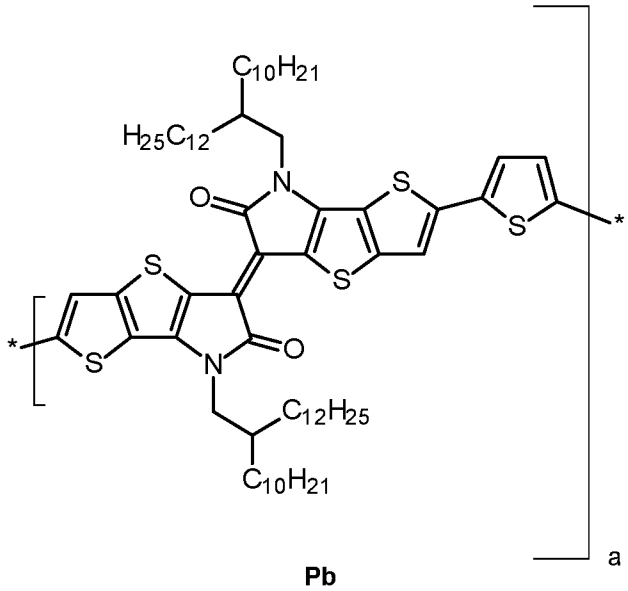
Preparation of polymer **Pb**



2a



(3b)



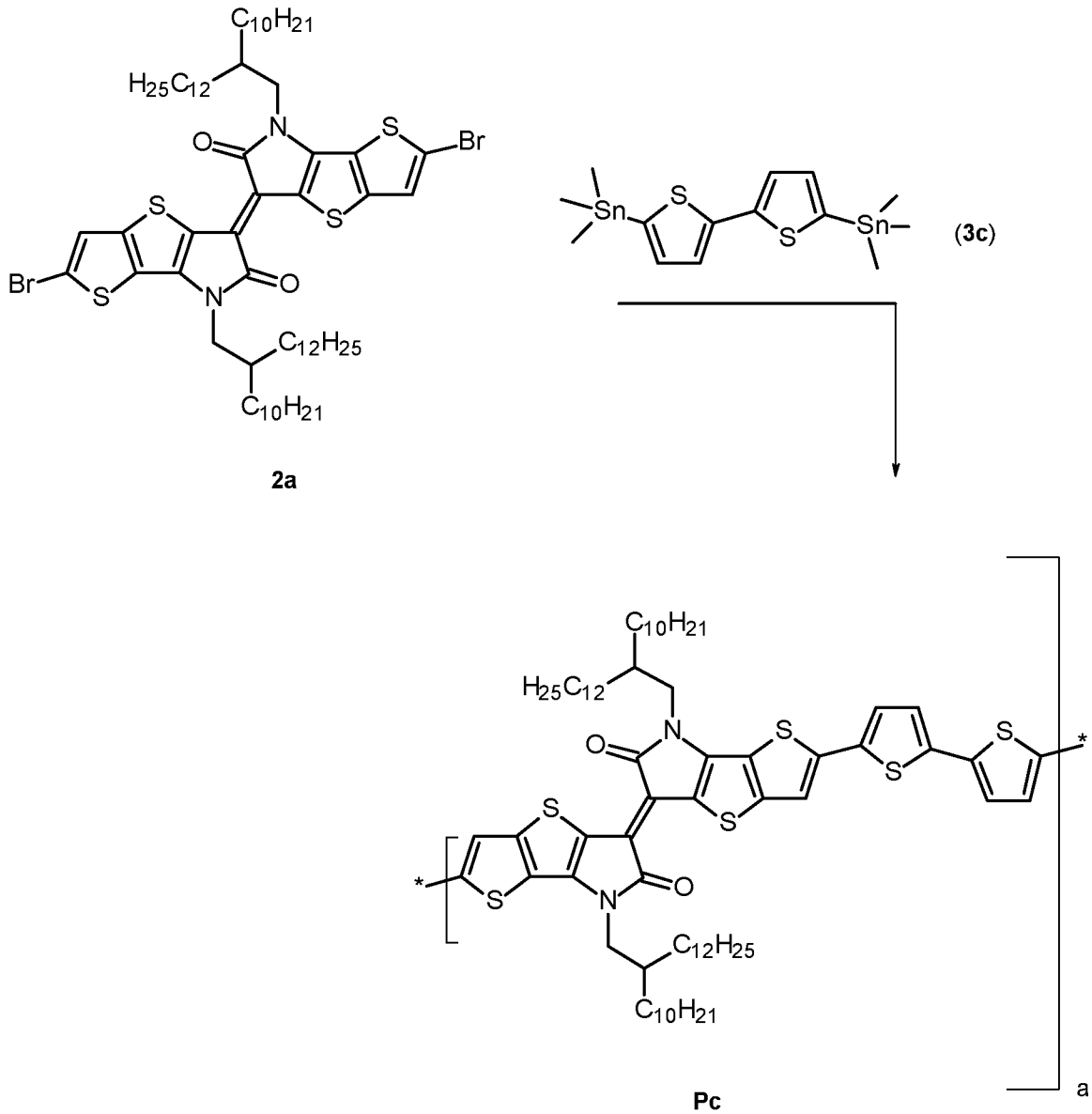
Pb

Compound **2a** (70 mg, 0.06 mmol, 1 equiv.) and 2,5-bis(trimethylstannyl)thiophene (24 mg, 0.06 mmol, 1 equiv) in chlorobenzene (1.0 mL) were added to a microwave vial. The solution was thoroughly degassed before the addition of $Pd_2(dba)_3$ (2 mg) and P(*o*-Tol)$_3$ (2.5 mg). The solution was further degassed and the microwave vial sealed before heating in a microwave in successive intervals of 5 min at 100 °C, 5 min at 140 °C, 5 min at 160 °C and finally 20 min at 180 °C. After cooling to room temperature the contents of the microwave vial were poured into vigorously stirred methanol, and the resulting polymeric precipitate was collected by filtration. The polymeric precipitate was purified by Soxhlet extraction first with acetone (24 h), second with hexane (24 h) and finally with chloroform (24 h). The chloroform fraction was stirred vigorously with aqueous sodium diethyldithiocarbamate at 60 °C for 2 hours to remove any residual catalytic metal impurities, after which the chloroform layer was separated and the solvent re-

moved by rotary evaporation. The obtained polymeric material was further purified by recycling gel permeation chromatography (GPC) in chlorobenzene to afford the polymer **Pb** (31 mg, 47%) as deep purple/black solid. GPC (chlorobenzene, 80 °C, polystyrene standard): M_n = 30 kDa, M_w = 67 kDa, PDI = 2.3. UV-VIS-absorption spectrum: λ_{max}: 909 nm (film) and 897 nm (solution). HOMO as determined by photoelectron spectroscopy in air (UV-PESA): -4.8 eV. HOMO as calculated by DFT/TD-DFT with a B3LYP/6-31g* basis set: -4.6 eV. LUMO as determined from absorption onset in thin film UV-VIS spectra: -3.6 eV. LUMO as calculated by DFT/TD-DFT with a B3LYP/6-31g* basis set: -3.3 eV. Eg as observed: 1.2 eV. Eg as calculated by DFT/TD-DFT with a B3LYP/6-31g* basis set: 1.3 eV.

Example 5

Preparation of polymer **Pc**



Compound **2a** (70 mg, 0.06 mmol, 1 equiv.) and 5,5'-bis(trimethylstannyl)-2,2'-bithiophene (28 mg, 0.06 mmol, 1 equiv) in chlorobenzene (1.0 mL) were added to a microwave vial. The solution was thoroughly degassed before the addition of $Pd_2(dba)_3$ (2 mg) and P(*o*-Tol)$_3$ (2.5 mg). The solution was further degassed and the microwave vial sealed before heating in a microwave in successive intervals of 5 min at 100 °C, 5 min at 140 °C, 5 min at 160 °C and finally 20 min at 180 °C. After cooling to room temperature the contents of the microwave vial were poured into vigorously stirred methanol, and the resulting polymeric precipitate was collected by filtration. The polymeric precipitate was purified by Soxhlet extraction first with acetone (24 h), second with hexane (24 h) and finally with chloroform (24 h). The chloroform fraction was stirred vigorously with aqueous sodium diethyldithiocarbamate at 60 °C for 2 hours to remove any residual catalytic metal impurities, after which the chloroform layer was separated and the solvent was removed by rotary evaporation. The obtained polymeric material was further purified by recycling gel permeation chromatography (GPC) in chlorobenzene to afford polymer **Pc** (42 mg, 60%) as deep purple/black solid. GPC (chlorobenzene, 80 °C, polystyrene standard): M_n = 20 kDa, M_w = 41 kDa, PDI = 2.1. UV-VIS-absorption spectrum: λ_{max}: 875 nm (film) and 864 nm (solution). HOMO as determined by photoelectron spectroscopy in air (UV-PESA): -4.8 eV. HOMO as calculated by DFT/TD-DFT with a B3LYP/6-31g* basis set: -4.6 eV. LUMO as determined from absorption onset in thin film UV-VIS spectra: -3.6 eV. LUMO as calculated by DFT/TD-DFT with a B3LYP/6-31g* basis set: -3.2 eV. Eg as observed: 1.2 eV. Eg as calculated by DFT/TD-DFT with a B3LYP/6-31g* basis set: 1.4 eV.

Example 6

Preparation of organic field effect transistors comprising the polymer **Pa**, **Pb**, respectively, **Pc**

Organic field effect transistors (top-gate/bottom contact) were fabricated on glass substrates with Ti/Au (10 nm/30 nm) evaporated on photo-lithographically defined electrodes. The polymer **Pa**, **Pb**, respectively, **Pc** was deposited by spin coating from a 10 mg/mL dichlorobenzene solution and was annealed for 1 h at 100, 200 or 300 °C, respectively. After annealing, the films were quenched on a cold metal surface and a 300 nm thick poly(methylmethacrylate) dielectric layer was spin-coated on top. A 20 nm thick gold layer was then evaporated through a shadow mask to define the transistor's top-gate. All fabrication steps were performed in an N_2 glove box. The channel characteristics are: L = 20 μm, W = 1 mm.

Pa, Pb and **Pc** were stable up to annealing temperatures of 350 °C with no observable thermal transition.

The saturation transfer curves of the organic field effect transistors comprising polymer **Pa**, **Pb** , respectively, **Pc** were measured at V_d = -60V using an Agilent 4155B Semiconductor Parameter Analyser (SPA) in a N_2 glove box. The average values of the electron mobilities μ_e, the hole mobilities μ_h and the threshold voltages V_{th} were determined from the square root of the saturation transfer curves and the results are summarized in table 1.

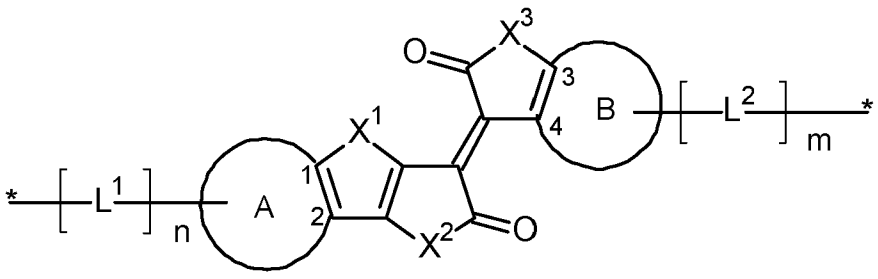
Polymer	T_{anneal} [°C]	μ_e [cm^2/Vs]	μ_h [cm^2/Vs]	V_{th} (electrons) [V]	V_{th} (holes) [V]
Pa	100	0.2	0.1	14	-10
	200	0.5	0.3	12	-13
	300	0.7	0.4	13	-20
Pb	100	0.01	0.01	7	-32
	200	0.2	0.2	-18	-24
	300	0.2	0.2	-24	-22
Pc	100	-	0.01	n/a[a]	3
	200	0.1	0.4	-18	-25
	300	0.1	0.4	-11	-21

Table 1.[a] not-available.

Pa, **Pb**, respectively, **Pc** exhibit good ambipolar properties, with improvements in hole and electron mobilities observed at high temperature annealing. The electron transport is favoured in **Pa**, whereas the hole transport is favoured **Pc**. **Pb** shows a very balanced hole and electron transport.

Claims

1. Polymers comprising at least one unit of formula

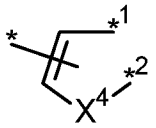


(**1**)

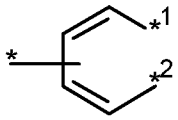
wherein

X^1, X^2 and X^3 are independently from each other O, S or NR^1,

A is selected from the group consisting of

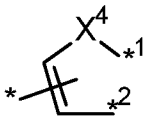


A1



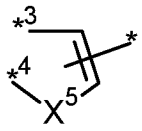
A2

and

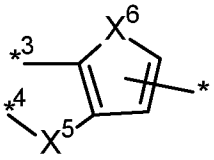


A3

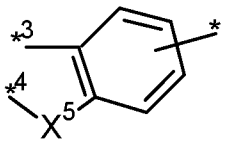
B is selected from the group consisting of



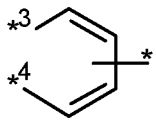
B1



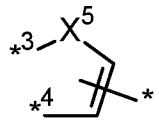
B2



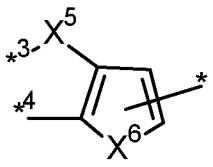
B3



B4

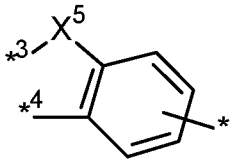


B5



B6

and



B7

wherein
X^4, X^5 and X^6 are independently from each other O, S or NR^1,
A1, A2, A3, B1, B2, B3, B4, B5, B6 or B7 can be substituted with one to three substituents R^2,

R^1 is at each occurrence selected from the group consisting of H, C_{1-100}-alkyl, C_{2-100}-alkenyl, C_{2-100}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl, a 5 to 20 membered heteroaryl, C(O)-C_{1-100}-alkyl, C(O)-C_{5-12}-cycloalkyl and C(O)-OC_{1-100}-alkyl,
wherein

C_{1-100}-alkyl, C_{2-100}-alkenyl and C_{2-100}-alkynyl can be substituted with one to fourty substituents independently selected from the group consisting of C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^a, OC(O)-R^a, C(O)-OR^a, C(O)-R^a, NR^aR^b, NR^a-C(O)R^b, C(O)-NR^aR^b, N[C(O)R^a][C(O)R^b], SR^a, Si(R^{Sia})(R^{Sib})(R^{Sic}), -O-Si(R^{Sia})(R^{Sib})(R^{Sic}), halogen, CN, and NO_2; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-100}-alkyl, C_{2-100}-alkenyl and C_{2-100}-alkynyl can be replaced by O or S,

C_{5-12}-cycloalkyl can be substituted with one to six substituents independently selected from the group consisting of C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^a, OC(O)-R^a, C(O)-OR^a, C(O)-R^a, NR^aR^b, NR^a-C(O)R^b, C(O)-NR^aR^b, N[C(O)R^a][C(O)R^b], SR^a, Si(R^{Sia})(R^{Sib})(R^{Sic}), -O-Si(R^{Sia})(R^{Sib})(R^{Sic}), halogen, CN, and NO_2; and one or two CH_2-groups, but not adjacent CH_2-groups, of C_{5-12}-cycloalkyl can be replaced by O, S, OC(O), CO, NR^a or NR^a-CO,

C_{6-18}-aryl and 5 to 20 membered heteroaryl can be substituted with one to six substituents independently selected from the group consisting of C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^a, OC(O)-R^a, C(O)-OR^a, C(O)-R^a, NR^aR^b, NR^a-C(O)R^b, C(O)-NR^aR^b, N[C(O)R^a][C(O)R^b], SR^a, Si(R^{Sia})(R^{Sib})(R^{Sic}), -O-Si(R^{Sia})(R^{Sib})(R^{Sic}), halogen, CN, and NO_2,

wherein
R^a and R^b are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl and 5 to 14 membered heteroaryl,

R^{Sia}, R^{Sib} and R^{Sic} are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, O-C_{1-60}-alkyl, O-C_{2-60}-alkenyl, O-C_{2-60}-alkynyl, O-C_{5-8}-cycloalkyl, O-C_{6-14}-aryl, O-5 to 14 membered heteroaryl, -[O-Si$R^{Sid}R^{Sie}$]$_o$-R^{Sif}, NR^5R^6, halogen and O-C(O)-R^5,
wherein

o is an integer from 1 to 50,

R^{Sid}, R^{Sie}, R^{Sif} are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, O-C_{1-60}-alkyl, O-C_{2-60}-alkenyl, O-C_{2-60}-alkynyl, O-C_{5-8}-cycloalkyl, O-C_{6-14}-aryl, O-5 to 14 membered heteroaryl, -[O-$SiR^{Sig}R^{Sih}$]$_p$-R^{Sii}, $NR^{50}R^{60}$, halogen and O-C(O)-R^{50};

wherein

p is an integer from 1 to 50,

R^{Sig} R^{Sih}, R^{Sii} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, O-C_{1-30}-alkyl, O-C_{2-30}-alkenyl, O-C_{2-30}-alkynyl, O-C_{5-6}-cycloalkyl, O-C_{6-10}-aryl, O-5 to 10 membered heteroaryl, O-$Si(CH_3)_3$, $NR^{500}R^{600}$, halogen and O-C(O)-R^{500},

R^5, R^6, R^{50}, R^{60}, R^{500} and R^{600} are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, and 5 to 14 membered heteroaryl,

C_{1-60}-alkyl, C_{2-60}-alkenyl and C_{2-60}-alkynyl can be substituted with one to twenty substituents selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, OR^c, OC(O)-R^c, C(O)-OR^c, C(O)-R^c, NR^cR^d, NR^c-C(O)R^d, C(O)-NR^cR^d, N[C(O)R^c][C(O)R^d], SR^c, $Si(R^{Sij})(R^{Sik})(R^{Sil})$, -O-$Si(R^{Sij})(R^{Sik})(R^{Sil})$, halogen, CN, and NO_2; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-60}-alkyl, C_{2-60}-alkenyl and C_{2-60}-alkynyl can be replaced by O or S,

C_{5-8}-cycloalkyl can be substituted with one to five substituents selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, OR^c, OC(O)-R^c, C(O)-OR^c, C(O)-R^c, NR^cR^d, NR^c-C(O)R^d, C(O)-NR^cR^d, N[C(O)R^c][C(O)R^d], SR^c, $Si(R^{Sij})(R^{Sik})(R^{Sil})$, -O-$Si(R^{Sij})(R^{Sik})(R^{Sil})$, halogen, CN, and NO_2; and one or two CH_2-groups, but not adjacent CH_2-groups, of C_{5-8}-cycloalkyl can be replaced by O, S, OC(O), CO, NR^c or NR^c-CO,

C_{6-14}-aryl and 5 to 14 membered heteroaryl can be substituted with one to five substituents independently selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, OR^c, OC(O)-R^c, C(O)-OR^c, C(O)-R^c, NR^cR^d, NR^c-C(O)R^d, C(O)-NR^cR^d, N[C(O)R^c][C(O)R^d], SR^c, $Si(R^{Sij})(R^{Sik})(R^{Sil})$, -O-$Si(R^{Sij})(R^{Sik})(R^{Sil})$, halogen, CN and NO_2;

wherein

R^c and R^d are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl,

R^{Sij}, R^{Sik} and R^{Sil} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, O-C_{1-30}-alkyl, O-C_{2-30}-alkenyl, O-C_{2-30}-alkynyl, O-C_{5-6}-cycloalkyl, O-C_{6-10}-aryl, O-5 to 10 membered heteroaryl, -[O-$SiR^{Sim}R^{Sin}$]$_q$-R^{Sio}, NR^7R^8, halogen, and O-C(O)-R^7,

wherein

q is an integer from 1 to 50,

R^{Sim}, R^{Sin}, R^{Sio} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, O-C_{1-30}-alkyl, O-C_{2-30}-alkenyl, O-C_{2-30}-alkynyl, O-C_{5-6}-cycloalkyl, O-C_{6-10}-aryl, O-5 to 10 membered heteroaryl, -[O-$SiR^{Sip}R^{Siq}$]$_r$-R^{Sir}, $NR^{70}R^{80}$, halogen, and O-C(O)-R^{70};

wherein

r is an integer from 1 to 50,

R^{Sip}, R^{Siq}, R^{Sir} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, O-C_{1-30}-alkyl, O-C_{2-30}-alkenyl, O-C_{2-30}-alkynyl, O-C_{5-6}-cycloalkyl, O-C_{6-10}-aryl, O-5 to 10 membered heteroaryl, O-$Si(CH_3)_3$, $NR^{700}R^{800}$, halogen and O-C(O)-R^{700},

R^7, R^8, R^{70}, R^{80}, R^{700} and R^{800} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, and 5 to 10 membered heteroaryl,

C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be substituted with one to ten substituents selected from the group consisting of halogen, CN and NO_2,

R^2 is at each occurrence selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl, 5 to 20 membered heteroaryl, OR^{21}, OC(O)-R^{21}, C(O)-OR^{21}, C(O)-R^{21}, $NR^{21}R^{22}$, NR^{21}-C(O)R^{22}, C(O)-$NR^{21}R^{22}$, N[C(O)R^{21}][C(O)R^{22}], SR^{21}, halogen, CN, $SiR^{Sis}R^{Sit}R^{Siu}$ and OH,

wherein

R^{21} and R^{22} and are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl and 5 to 20 membered heteroaryl, and

C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be substituted with one to ten substituents independently selected from the group consisting of C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^e, OC(O)-R^e, C(O)-OR^e, C(O)-R^e, NR^eR^f, NR^e-C(O)R^f, C(O)-

NR^eR^f, $N[C(O)R^e][C(O)R^f]$, SR^e, halogen, CN, $SiR^{Sis}R^{Sit}R^{Siu}$ and NO_2; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be replaced by O or S,

C_{5-12}-cycloalkyl can be substituted with one to six substituents independently selected from the group consisting of C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^e, $OC(O)$-R^e, $C(O)$-OR^e, $C(O)$-R^e, NR^eR^f, NR^e-$C(O)R^f$, $C(O)$-NR^eR^f, $N[C(O)R^e][C(O)R^f]$, SR^e, halogen, CN, $SiR^{Sis}R^{Sit}R^{Siu}$ and NO_2; and one or two CH_2-groups, but not adjacent CH_2-groups, of C_{5-12}-cycloalkyl can be replaced by O, S, OC(O), CO, NR^e or NR^e-CO,

C_{6-18}-aryl and 5 to 20 membered heteroaryl can be substituted with one to six substituents independently selected from the group consisting of C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^e, $OC(O)$-R^e, $C(O)$-OR^e, $C(O)$-R^e, NR^eR^f, NR^e-$C(O)R^f$, $C(O)$-NR^eR^f, $N[C(O)R^e][C(O)R^f]$, SR^e, halogen, CN, $SiR^{Sis}R^{Sit}R^{Siu}$ and NO_2,

wherein

R^{Sis}, R^{Sit} and R^{Siu} are independently from each other selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl, phenyl and $O\text{-}Si(CH_3)_3$,

R^e and R^f are independently selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, and 5 to 14 membered heteroaryl,

wherein

C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl can be substituted with one to five substituents selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^g, $OC(O)$-R^g, $C(O)$-OR^g, $C(O)$-R^g, NR^gR^h, NR^g-$C(O)R^h$, $C(O)$-NR^gR^h, $N[C(O)R^g][C(O)R^h]$, SR^g, halogen, CN, and NO_2;

C_{5-8}-cycloalkyl can be substituted with one to five substituents selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^g, $OC(O)$-R^g, $C(O)$-OR^g, $C(O)$-R^g, NR^gR^h, NR^g-$C(O)R^h$, $C(O)$-NR^gR^h, $N[C(O)R^g][C(O)R^h]$, SR^g, halogen, CN, and NO_2;

C_{6-14}-aryl and 5 to 14 membered heteroaryl can be substituted with one to five substituents independently selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^g, $OC(O)$-R^g, $C(O)$-OR^g, $C(O)$-R^g, NR^gR^h, NR^g-$C(O)R^h$, $C(O)$-NR^gR^h, $N[C(O)R^g][C(O)R^h]$, SR^g, halogen, CN, and NO_2;

wherein

R^g and R^h are independently selected from the group consisting of H, C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl,

wherein

C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl can be substituted with one to five substituents selected from the group consisting of halogen, CN and NO_2,

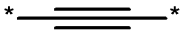
n is 0, 1, 2 or 3,

m is 0, 1, 2 or 3,

and

L^1 and are L^2 are independently from each other and at each occurrence selected from the group consisting of C_{6-18}-arylene, 5 to 20 membered heteroarylene,

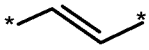

,

and

,

wherein

C_{6-18}-arylene and 5 to 20 membered heteroarylene can be substituted with one to six substituents R^3 at each occurrence selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl and 5 to 20 membered heteroaryl, OR^{31}, $OC(O)-R^{31}$, $C(O)-OR^{31}$, $C(O)-R^{31}$, $NR^{31}R^{32}$, $NR^{31}-C(O)R^{32}$, $C(O)-NR^{31}R^{32}$, $N[C(O)R^{31}][C(O)R^{32}]$, SR^{31}, halogen, CN, $SiR^{Siv}R^{Siw}R^{Six}$ and OH, and

wherein


and


can be substituted with one or two substituents R^4 at each occurrence selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl and 5 to 20 membered heteroaryl, $C(O)-R^{41}$, $C(O)-NR^{41}R^{42}$, $C(O)-OR^{41}$ and CN,

wherein

R^{31}, R^{32}, R^{41} und R^{42} are independently from each other and at each occurrence selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl and 5 to 20 membered heteroaryl, and

wherein

C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be substituted with one to ten substituents independently selected from the group consisting of C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^i, $OC(O)-R^i$, $C(O)-OR^i$, $C(O)-R^i$, NR^iR^j, $NR^i-C(O)R^j$, $C(O)-NR^iR^j$,

$N[C(O)R^i][C(O)R^j]$, SR^i, halogen, CN, $SiR^{Siv}R^{Siw}R^{Six}$ and NO_2; and at least two CH_2-groups, but not adjacent CH_2-groups of C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be replaced by O or S,

C_{5-12}-cycloalkyl can be substituted with one to six substituents independently selected from the group consisting of C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^i, $OC(O)$-R^j, $C(O)$-OR^i, $C(O)$-R^i, NR^iR^j, NR^i-$C(O)R^j$, $C(O)$-NR^iR^j, $N[C(O)R^i][C(O)R^j]$, SR^i, halogen, CN, $SiR^{Siv}R^{Siw}R^{Six}$ and NO_2; and one or two CH_2-groups, but not adjacent CH_2-groups, of C_{5-12}-cycloalkyl can be replaced by O, S, OC(O), CO, NR^i or NR^i-CO,

C_{6-18}-aryl and 5 to 20 membered heteroaryl can be substituted with one to six substituents independently selected from the group consisting of C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^i, $OC(O)$-R^j, $C(O)$-OR^i, $C(O)$-R^i, NR^iR^j, NR^i-$C(O)R^j$, $C(O)$-NR^iR^j, $N[C(O)R^i][C(O)R^j]$, SR^i, halogen, CN, $SiR^{Siv}R^{Siw}R^{Six}$ and NO_2,

wherein
$SiR^{Siv}R^{Siw}R^{Six}$ are independently from each other selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl, phenyl and O-$Si(CH_3)_3$,

R^i and R^j are independently selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, and 5 to 14 membered heteroaryl,
wherein
C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl can be substituted with one to five substituents selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^k, $OC(O)$-R^l, $C(O)$-OR^k, $C(O)$-R^k, NR^kR^l, NR^k-$C(O)R^l$, $C(O)$-NR^kR^l, $N[C(O)R^k][C(O)R^l]$, SR^k, halogen, CN, and NO_2;

C_{5-8}-cycloalkyl can be substituted with one to five substituents selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^k, $OC(O)$-R^l, $C(O)$-OR^k, $C(O)$-R^k, NR^kR^l, NR^k-$C(O)R^l$, $C(O)$-NR^kR^l, $N[C(O)R^k][C(O)R^l]$, SR^k, halogen, CN, and NO_2;

C_{6-14}-aryl and 5 to 14 membered heteroaryl can be substituted with one to five substituents independently selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^k, $OC(O)$-R^l, $C(O)$-OR^k, $C(O)$-R^k, NR^kR^l, NR^k-$C(O)R^l$, $C(O)$-NR^kR^l, $N[C(O)R^k][C(O)R^l]$, SR^k, halogen, CN, and NO_2;

wherein

R^k and R^l are independently selected from the group consisting of H, C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl,

wherein

C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl can be substituted with one to five substituents selected from the group consisting of halogen, CN and NO_2.

2. The polymers of claim 1, wherein

X^1, X^2 and X^3 are independently from each other S or NR^1,

wherein

R^1 is at each occurrence selected from the group consisting of C_{1-100}-alkyl, C_{2-100}-alkenyl and C_{2-100}-alkynyl,

wherein

C_{1-100}-alkyl, C_{2-100}-alkenyl and C_{2-100}-alkynyl can be substituted with one to fourty substituents independently selected from the group consisting of C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^a, $OC(O)$-R^a, $C(O)$-OR^a, $C(O)$-R^a, NR^a-$C(O)R^b$, $C(O)$-NR^aR^b, SR^a, $Si(R^{Sia})(R^{Sib})(R^{Sic})$, -O-$Si(R^{Sia})(R^{Sib})(R^{Sic})$, halogen, and CN; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-100}-alkyl, C_{2-100}-alkenyl and C_{2-100}-alkynyl can be replaced by O or S,

wherein

R^a and R^b are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl and 5 to 14 membered heteroaryl,

R^{Sia}, R^{Sib} and R^{Sic} are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, $-[O\text{-}SiR^{Sid}R^{Sie}]_o\text{-}R^{Sif}$,

wherein

o is an integer from 1 to 50,

R^{Sid}, R^{Sie} and R^{Sif} are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, $-[O\text{-}SiR^{Sig}R^{Sih}]_p\text{-}R^{Sii}$,

wherein

p is an integer from 1 to 50,

R^{Sig} R^{Sih}, R^{Sii} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, $O\text{-}Si(CH_3)_3$,

R^5, R^6, R^{50}, R^{60}, R^{500} and R^{600} are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, and 5 to 14 membered heteroaryl,

C_{1-60}-alkyl, C_{2-60}-alkenyl and C_{2-60}-alkynyl can be substituted with one to twenty substituents selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, OR^c, $OC(O)-R^c$, $C(O)-OR^c$, $C(O)-R^c$, $NR^c-C(O)R^d$, $C(O)-NR^cR^d$, SR^c, $Si(R^{Sij})(R^{Sik})(R^{Sil})$, $-O-Si(R^{Sij})(R^{Sik})(R^{Sil})$, halogen, and CN; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-60}-alkyl, C_{2-60}-alkenyl and C_{2-60}-alkynyl can be replaced by O or S,

C_{5-8}-cycloalkyl can be substituted with one to five substituents selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, OR^c, $OC(O)-R^c$, $C(O)-OR^c$, $C(O)-R^c$, $NR^c-C(O)R^d$, $C(O)-NR^cR^d$, SR^c, $Si(R^{Sij})(R^{Sik})(R^{Sil})$, $-O-Si(R^{Sij})(R^{Sik})(R^{Sil})$, halogen, and CN; and one or two CH_2-groups, but not adjacent CH_2-groups, of C_{5-8}-cycloalkyl can be replaced by O, S, OC(O), CO, NR^c or NR^c-CO,

C_{6-14}-aryl and 5 to 14 membered heteroaryl can be substituted with one to five substituents independently selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, OR^c, $OC(O)-R^c$, $C(O)-OR^c$, $C(O)-R^c$, $NR^c-C(O)R^d$, $C(O)-NR^cR^d$, SR^c, $Si(R^{Sij})(R^{Sik})(R^{Sil})$, $-O-Si(R^{Sij})(R^{Sik})(R^{Sil})$, halogen, and CN;

wherein
R^c and R^d are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl,

R^{Sij}, R^{Sik} and R^{Sil} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, $-[O-SiR^{Sim}R^{Sin}]_q-R^{Sio}$,
wherein
q is an integer from 1 to 50,

R^{Sim}, R^{Sin}, R^{Sio} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, $-[O-SiR^{Sip}R^{Siq}]_r-R^{Sir}$,
wherein
r is an integer from 1 to 50,
R^{Sip}, R^{Siq}, R^{Sir} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, $O-Si(CH_3)_3$,

R^7, R^8, R^{70}, R^{80}, R^{700} and R^{800} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, and 5 to 10 membered heteroaryl,

C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be substituted with one to ten substituents selected from the group consisting of halogen and CN,

R^2 is at each occurrence selected from the group consisting of C_{1-30}-alkyl and halogen, wherein

C_{1-30}-alkyl can be substituted with one to ten substituents independently selected from the group consisting of C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^e, $OC(O)-R^e$, $C(O)-OR^e$, $C(O)-R^e$, NR^eR^f, $NR^e-C(O)R^f$, $C(O)-NR^eR^f$, $N[C(O)R^e][C(O)R^f]$, SR^e, halogen, CN, $SiR^{Sis}R^{Sit}R^{Siu}$ and NO_2; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-30}-alkyl can be replaced by O or S,

wherein

R^{Sis}, R^{Sit} and R^{Siu} are independently from each other selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl, phenyl and $O-Si(CH_3)_3$,

R^e and R^f are independently selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, and 5 to 14 membered heteroaryl,

wherein

C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl can be substituted with one to five substituents selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^g, $OC(O)-R^g$, $C(O)-OR^g$, $C(O)-R^g$, NR^gR^h, $NR^g-C(O)R^h$, $C(O)-NR^gR^h$, $N[C(O)R^g][C(O)R^h]$, SR^g, halogen, CN, and NO_2;

C_{5-8}-cycloalkyl can be substituted with one to five substituents selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^g, $OC(O)-R^g$, $C(O)-OR^g$, $C(O)-R^g$, NR^gR^h, $NR^g-C(O)R^h$, $C(O)-NR^gR^h$, $N[C(O)R^g][C(O)R^h]$, SR^g, halogen, CN, and NO_2;

C_{6-14}-aryl and 5 to 14 membered heteroaryl can be substituted with one to five substituents independently selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^g, $OC(O)-R^g$, $C(O)-OR^g$, $C(O)-R^g$, NR^gR^h, $NR^g-C(O)R^h$, $C(O)-NR^gR^h$, $N[C(O)R^g][C(O)R^h]$, SR^g, halogen, CN, and NO_2;

wherein

R^g and R^h are independently selected from the group consisting of H, C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl,

wherein

C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl can be substituted with one to five substituents selected from the group consisting of halogen, CN and NO_2,

and A, B, L^1, L^2, n and m are as defined in claim 1.

3. The polymers of claim 1, wherein
X^1 is S, and X^2 and X^3 are NR^1,
wherein

R^1 is at each occurrence selected from the group consisting of C_{1-100}-alkyl, C_{2-100}-alkenyl and C_{2-100}-alkynyl,
wherein

C_{1-100}-alkyl, C_{2-100}-alkenyl and C_{2-100}-alkynyl can be substituted with one to fourty substituents independently selected from the group consisting of C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^a, $OC(O)-R^a$, $C(O)-OR^a$, $C(O)-R^a$, $NR^a-C(O)R^b$, $C(O)-NR^aR^b$, SR^a, $Si(R^{Sia})(R^{Sib})(R^{Sic})$, -O-$Si(R^{Sia})(R^{Sib})(R^{Sic})$, halogen, and CN; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-100}-alkyl, C_{2-100}-alkenyl and C_{2-100}-alkynyl can be replaced by O or S,

wherein
R^a and R^b are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl and 5 to 14 membered heteroaryl,

R^{Sia}, R^{Sib} and R^{Sic} are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, $-[O-SiR^{Sid}R^{Sie}]_o-R^{Sif}$,
wherein
o is an integer from 1 to 50,

R^{Sid}, R^{Sie} and R^{Sif} are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, $-[O-SiR^{Sig}R^{Sih}]_p-R^{Sii}$,
wherein
p is an integer from 1 to 50,
R^{Sig} R^{Sih}, R^{Sii} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, $O-Si(CH_3)_3$,

R^5, R^6, R^{50}, R^{60}, R^{500} and R^{600} are independently selected from the group consisting of H, C_{1-60}-alkyl, C_{2-60}-alkenyl, C_{2-60}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, and 5 to 14 membered heteroaryl,

C_{1-60}-alkyl, C_{2-60}-alkenyl and C_{2-60}-alkynyl can be substituted with one to twenty substituents selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, OR^c, $OC(O)-R^c$, $C(O)-OR^c$, $C(O)-R^c$, $NR^c-C(O)R^d$, $C(O)-NR^cR^d$, SR^c, $Si(R^{Sij})(R^{Sik})(R^{Sil})$,

-O-Si(R^{Sij})(R^{Sik})(R^{Sil}), halogen, and CN; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-60}-alkyl, C_{2-60}-alkenyl and C_{2-60}-alkynyl can be replaced by O or S,

C_{5-8}-cycloalkyl can be substituted with one to five substituents selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, OR^c, OC(O)-R^c, C(O)-OR^c, C(O)-R^c, NR^c-C(O)R^d, C(O)-NR^cR^d, SR^c, Si(R^{Sij})(R^{Sik})(R^{Sil}), -O-Si(R^{Sij})(R^{Sik})(R^{Sil}), halogen, and CN; and one or two CH_2-groups, but not adjacent CH_2-groups, of C_{5-8}-cycloalkyl can be replaced by O, S, OC(O), CO, NR^c or NR^c-CO,

C_{6-14}-aryl and 5 to 14 membered heteroaryl can be substituted with one to five substituents independently selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, OR^c, OC(O)-R^c, C(O)-OR^c, C(O)-R^c, NR^c-C(O)R^d, C(O)-NR^cR^d, SR^c, Si(R^{Sij})(R^{Sik})(R^{Sil}), -O-Si(R^{Sij})(R^{Sik})(R^{Sil}), halogen, and CN;

wherein
R^c and R^d are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl,

R^{Sij}, R^{Sik} and R^{Sil} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, -[O-Si$R^{Sim}R^{Sin}$]$_q$-R^{Sio},
wherein
q is an integer from 1 to 50,

R^{Sim}, R^{Sin}, R^{Sio} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, -[O-Si$R^{Sip}R^{Siq}$]$_r$-R^{Sir},
wherein
r is an integer from 1 to 50,
R^{Sip}, R^{Siq}, R^{Sir} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, O-Si$(CH_3)_3$,

R^7, R^8, R^{70}, R^{80}, R^{700} and R^{800} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, and 5 to 10 membered heteroaryl,

C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be substituted with one to ten substituents selected from the group consisting of halogen and CN,

R^2 is at each occurrence selected from the group consisting of C_{1-30}-alkyl and halogen,
wherein

C_{1-30}-alkyl can be substituted with one to ten substituents independently selected from the group consisting of C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^e, $OC(O)-R^e$, $C(O)-OR^e$, $C(O)-R^e$, NR^eR^f, $NR^e-C(O)R^f$, $C(O)-NR^eR^f$, $N[C(O)R^e][C(O)R^f]$, SR^e, halogen, CN, $SiR^{Sis}R^{Sit}R^{Siu}$ and NO_2; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-30}-alkyl can be replaced by O or S,

wherein
R^{Sis}, R^{Sit} and R^{Siu} are independently from each other selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl, phenyl and $O-Si(CH_3)_3$,

R^e and R^f are independently selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, and 5 to 14 membered heteroaryl,
wherein
C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl can be substituted with one to five substituents selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^g, $OC(O)-R^g$, $C(O)-OR^g$, $C(O)-R^g$, NR^gR^h, $NR^g-C(O)R^h$, $C(O)-NR^gR^h$, $N[C(O)R^g][C(O)R^h]$, SR^g, halogen, CN, and NO_2;

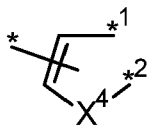
C_{5-8}-cycloalkyl can be substituted with one to five substituents selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^g, $OC(O)-R^g$, $C(O)-OR^g$, $C(O)-R^g$, NR^gR^h, $NR^g-C(O)R^h$, $C(O)-NR^gR^h$, $N[C(O)R^g][C(O)R^h]$, SR^g, halogen, CN, and NO_2;

C_{6-14}-aryl and 5 to 14 membered heteroaryl can be substituted with one to five substituents independently selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^g, $OC(O)-R^g$, $C(O)-OR^g$, $C(O)-R^g$, NR^gR^h, $NR^g-C(O)R^h$, $C(O)-NR^gR^h$, $N[C(O)R^g][C(O)R^h]$, SR^g, halogen, CN, and NO_2;

wherein
R^g and R^h are independently selected from the group consisting of H, C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl,
wherein
C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl can be substituted with one to five substituents selected from the group consisting of halogen, CN and NO_2, and

A, B, L^1, L^2, n and m are as defined in claim 1.

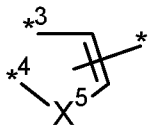
4. The polymers of claim 2 or 3, wherein
A is



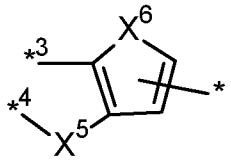
A1 ,

wherein
X^4 is S or NR^1, and
A1 can be substituted with one substituent R^2,

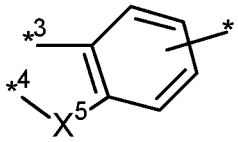
B is selected from the group consisting of



B1 ,



B2 and



B3

wherein
X^5 and X^6 are independently from each other S or NR^1, and
B1, B2 and B3 can be substituted with one to three substituents R^2.

R^1 is at each occurrence selected from the group consisting of C_{1-50}-alkyl, C_{2-50}-alkenyl and C_{2-50}-alkynyl,

wherein
C_{1-50}-alkyl, C_{2-50}-alkenyl and C_{2-50}-alkynyl can be substituted with one to twenty substituents independently selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^a, SR^a, $Si(R^{Sia})(R^{Sib})(R^{Sic})$, -O-$Si(R^{Sia})(R^{Sib})(R^{Sic})$, halogen, and CN; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-50}-alkyl, C_{2-50}-alkenyl and C_{2-50}-alkynyl can be replaced by O or S,

wherein
R^a and R^b are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl and C_{6-10}-aryl,

R^{Sia}, R^{Sib} and R^{Sic} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, -[O-Si$R^{Sid}R^{Sie}$]$_o$-R^{Sif},
wherein
o is an integer from 1 to 50,

R^{Sid}, R^{Sie}, R^{Sif} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, -[O-Si$R^{Sig}R^{Sih}$]$_p$-R^{Sii},
wherein
p is an integer from 1 to 50,

R^{Sig} R^{Sih}, R^{Sii} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, O-Si$(CH_3)_3$,

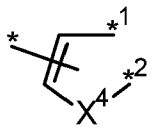
R^5, R^6, R^{50}, R^{60}, R^{500} and R^{600} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, and 5 to 10 membered heteroaryl,

C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be substituted with one to ten substituents selected from the group consisting of halogen and CN,

R^2 is at each occurrence selected from the group consisting of unsubstituted C_{1-30}-alkyl and halogen, and

L^1, L^2, n and m are as defined in claim 1.

5. The polymers of claim 2 or 3, wherein
A is



A1 ,

wherein
X^4 is S or NR^1, and
A1 can be substituted with one substituent R^2,

B is

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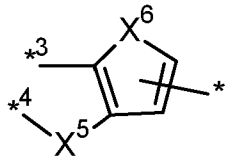


B2

wherein

X^5 and X^6 are independently from each other S or NR^1, and

B2 can be substituted with one substituent R^2,

R^1 is at each occurrence selected from the group consisting of C_{1-36}-alkyl, C_{2-36}-alkenyl and C_{2-36}-alkynyl,

wherein

C_{1-36}-alkyl, C_{2-36}-alkenyl and C_{2-36}-alkynyl can be substituted with one to twenty substituents independently selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^a, SR^a, $Si(R^{Sia})(R^{Sib})(R^{Sic})$, -O-$Si(R^{Sia})(R^{Sib})(R^{Sic})$, halogen, and CN; and at least two CH_2-groups, but not adjacent CH_2-groups, of C_{1-36}-alkyl, C_{2-36}-alkenyl and C_{2-36}-alkynyl can be replaced by O or S,

wherein

R^a and R^b are independently selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl and C_{6-10}-aryl

R^{Sia}, R^{Sib} and R^{Sic} are independently selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, $-[O\text{-}SiR^{Sid}R^{Sie}]_o\text{-}R^{Sif}$

wherein

o is an integer from 1 to 50,

R^{Sid}, R^{Sie}, R^{Sif} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, $-[O\text{-}SiR^{Sig}R^{Sih}]_p\text{-}R^{Sii}$,

wherein

p is an integer from 1 to 50,

R^{Sig} R^{Sih}, R^{Sii} are independently selected from the group consisting of H, C_{1-30}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, O-$Si(CH_3)_3$,

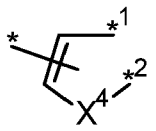
R^5, R^6, R^{50}, R^{60}, R^{500} and R^{600} are independently selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, and 5 to 10 membered heteroaryl,

C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl can be substituted with one to ten substituents selected from the group consisting of halogen and CN,

R^2 is at each occurrence selected from the group consisting of unsubstituted C_{1-30}-alkyl and halogen, and

L^1, L^2, n and m are as defined in claim 1.

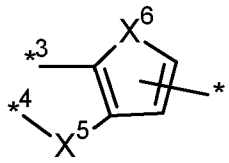
6. The polymers of claim 2 or 3, wherein
A is



A1 ,

wherein
X^4 is S and
A1 is not substituted,

B is



B2

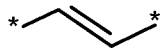
wherein
X^5 and X^6 are S, and
B2 is not substituted,

R^1 is at each occurrence unsubstituted C_{1-36}-alkyl, and

L^1, L^2, n and m are as defined in claim 1.

7. The polymers of claims 4, 5 and 6, wherein

L^1 and L^2 are independently from each other and at each occurrence selected from the group consisting of 5 to 20 membered heteroarylene,

and  ,

wherein
5 to 20 membered heteroarylene can be substituted with one to six substituents R^3 at each occurrence selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl and 5 to 20 membered heteroaryl, OR^{31}, $OC(O)$-R^{31}, $C(O)$-OR^{31}, $C(O)$-R^{31}, $NR^{31}R^{32}$, NR^{31}-$C(O)R^{32}$, $C(O)$-$NR^{31}R^{32}$, SR^{31}, halogen, CN, $SiR^{Siv}R^{Siw}R^{Six}$ and OH, and

wherein

can be substituted with one or two substituents R^4 at each occurrence selected from the group consisting of C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl and 5 to 20 membered heteroaryl, $C(O)$-R^{41}, $C(O)$-$NR^{41}R^{42}$, $C(O)$-OR^{41} and CN,

wherein
R^{31}, R^{32}, R^{41} und R^{42} are independently from each other and at each occurrence selected from the group consisting of H, C_{1-30}-alkyl, C_{2-30}-alkenyl, C_{2-30}-alkynyl, C_{5-12}-cycloalkyl, C_{6-18}-aryl and 5 to 20 membered heteroaryl, and

wherein
C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be substituted with one to ten substituents independently selected from the group consisting of C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^i, $OC(O)$-R^j, $C(O)$-OR^i, $C(O)$-R^i, NR^iR^j, NR^i-$C(O)R^j$, $C(O)$-NR^iR^j, $N[C(O)R^i][C(O)R^j]$, SR^i, halogen, CN, $SiR^{Siv}R^{Siw}R^{Six}$ and NO_2; and at least two CH_2-groups, but not adjacent CH_2-groups of C_{1-30}-alkyl, C_{2-30}-alkenyl and C_{2-30}-alkynyl can be replaced by O or S,

C_{5-12}-cycloalkyl can be substituted with one to six substituents independently selected from the group consisting of C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^i, $OC(O)$-R^j, $C(O)$-OR^i, $C(O)$-R^i, NR^iR^j, NR^i-$C(O)R^j$, $C(O)$-NR^iR^j, $N[C(O)R^i][C(O)R^j]$, SR^i, halogen, CN, $SiR^{Siv}R^{Siw}R^{Six}$ and NO_2; and one or two CH_2-groups, but not adjacent CH_2-groups, of C_{5-12}-cycloalkyl can be replaced by O, S, OC(O), CO, NR^i or NR^i-CO,

C_{6-18}-aryl and 5 to 20 membered heteroaryl can be substituted with one to six substituents independently selected from the group consisting of C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl,

C_{5-8}-cycloalkyl, C_{6-14}-aryl, 5 to 14 membered heteroaryl, OR^i, $OC(O)-R^i$, $C(O)-OR^i$, $C(O)-R^i$, NR^iR^j, $NR^i-C(O)R^j$, $C(O)-NR^iR^j$, $N[C(O)R^i][C(O)R^j]$, SR^i, halogen, CN, $SiR^{Siv}R^{Siw}R^{Six}$ and NO_2,

wherein

$SiR^{Siv}R^{Siw}R^{Six}$ are independently from each other selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-6}-cycloalkyl, phenyl and $O-Si(CH_3)_3$,

R^i and R^j are independently selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, and 5 to 14 membered heteroaryl,

wherein

C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl can be substituted with one to five substituents selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^k, $OC(O)-R^l$, $C(O)-OR^k$, $C(O)-R^k$, NR^kR^l, $NR^k-C(O)R^l$, $C(O)-NR^kR^l$, $N[C(O)R^k][C(O)R^l]$, SR^k, halogen, CN, and NO_2;

C_{5-8}-cycloalkyl can be substituted with one to five substituents selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^k, $OC(O)-R^l$, $C(O)-OR^k$, $C(O)-R^k$, NR^kR^l, $NR^k-C(O)R^l$, $C(O)-NR^kR^l$, $N[C(O)R^k][C(O)R^l]$, SR^k, halogen, CN, and NO_2;

C_{6-14}-aryl and 5 to 14 membered heteroaryl can be substituted with one to five substituents independently selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^k, $OC(O)-R^l$, $C(O)-OR^k$, $C(O)-R^k$, NR^kR^l, $NR^k-C(O)R^l$, $C(O)-NR^kR^l$, $N[C(O)R^k][C(O)R^l]$, SR^k, halogen, CN, and NO_2;

wherein

R^k and R^l are independently selected from the group consisting of H, C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl,

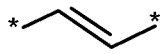
wherein

C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl can be substituted with one to five substituents selected from the group consisting of halogen, CN and NO_2,

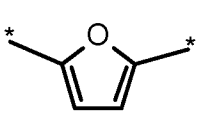
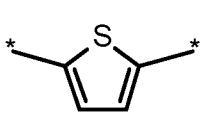
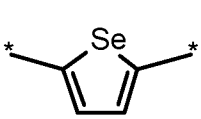
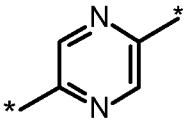
and n and m are as defined in claim 1.

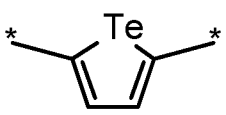
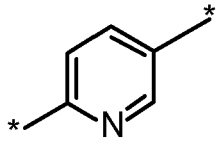
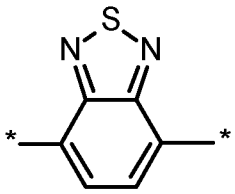
8. The polymers of claim 4, 5 or 6, wherein

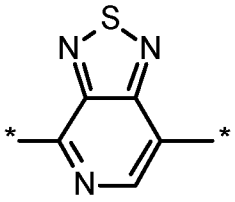
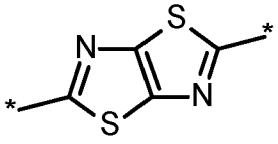
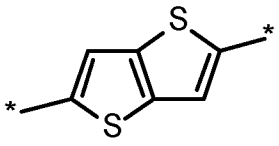
L^1 and L^2 are independently from each other and at each occurrence selected from the group consisting of 5 to 20 membered heteroarylene,

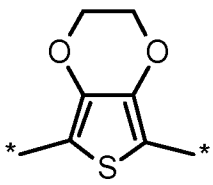
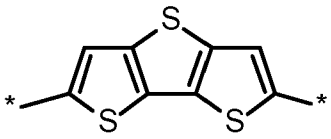
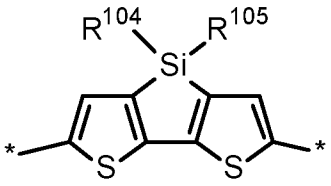
and  ,

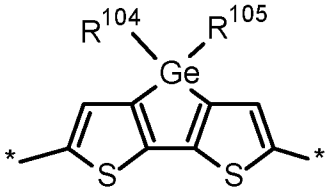
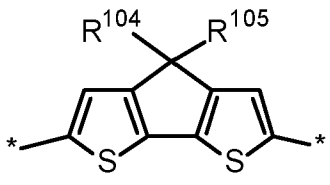
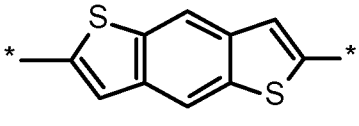
wherein 5 to 20 membered heteroarylene is selected from the group consisting of

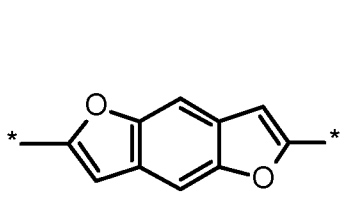
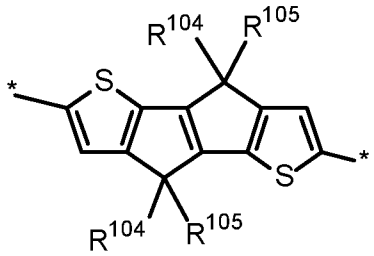
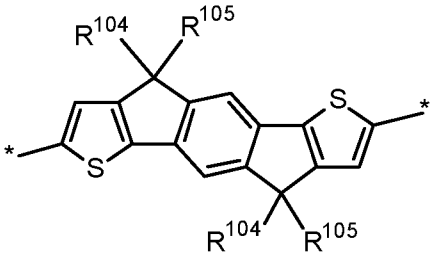
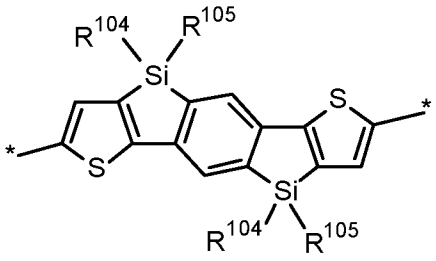
 ,  ,  ,  ,

 ,  ,  ,

 ,  ,  ,

 ,  ,  ,

 ,  ,  ,




and


wherein

R^{104} and R^{105} are independently and at each occurrence selected from the group consisting of H, C_{1-20}-alkyl, C_{2-20}-alkenyl, C_{2-20}-alkynyl, C_{5-8}-cycloalkyl, C_{6-14}-aryl, and 5 to 14 membered heteroaryl, or R^{104} and R^{105}, if attached to the same atom, together with the atom, to which they are attached, form a 5 to 12 membered ring system,

wherein

C_{1-20}-alkyl, C_{2-20}-alkenyl and C_{2-20}-alkynyl can be substituted with one to five substituents selected from the group consisting of C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^s, $OC(O)-R^t$, $C(O)-OR^s$, $C(O)-R^s$, NR^sR^t, $NR^s-C(O)R^t$, $C(O)-NR^sR^t$, $N[C(O)R^s][C(O)R^t]$, SR^s, halogen, CN, and NO_2;

C_{5-8}-cycloalkyl can be substituted with one to five substituents selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^s, $OC(O)-R^t$, $C(O)-OR^s$, $C(O)-R^s$, NR^sR^t, $NR^s-C(O)R^t$, $C(O)-NR^sR^t$, $N[C(O)R^s][C(O)R^t]$, SR^s, halogen, CN, and NO_2;

C_{6-14}-aryl and 5 to 14 membered heteroaryl can be substituted with one to five substituents independently selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^s, $OC(O)-R^t$, $C(O)-OR^s$, $C(O)-R^s$, NR^sR^t, $NR^s-C(O)R^t$, $C(O)-NR^sR^t$, $N[C(O)R^s][C(O)R^t]$, SR^s, halogen, CN, and NO_2;

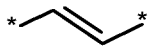
5 to 12 membered ring system can be substituted with one to five substituents selected from the group consisting of C_{1-10}-alkyl, C_{2-10}-alkenyl, C_{2-10}-alkynyl, C_{5-6}-cycloalkyl, C_{6-10}-aryl, 5 to 10 membered heteroaryl, OR^s, $OC(O)-R^t$, $C(O)-OR^s$, $C(O)-R^s$, NR^sR^t, $NR^s-C(O)R^t$, $C(O)-NR^sR^t$, $N[C(O)R^s][C(O)R^t]$, SR^s, halogen, CN, and NO_2;

wherein

R^s and R^t are independently selected from the group consisting of H, C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl,
wherein
C_{1-10}-alkyl, C_{2-10}-alkenyl and C_{2-10}-alkynyl can be substituted with one to five substituents selected from the group consisting of halogen, CN and NO_2,

wherein
5 to 20 membered heteroarylene can be substituted with one to six substituents R^3 at each occurrence selected from the group consisting of C_{1-30}-alkyl and halogen, and

wherein



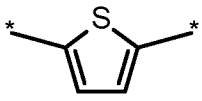
can be substituted with one or two substituents R^4 at each occurrence selected from the group consisting of C_{1-30}-alkyl, C(O)-R^{41}, C(O)-OR^{41} and CN,

wherein
R^{41} is at each occurrence C_{1-30}-alkyl,

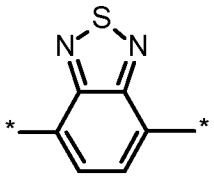
and n and m are as defined in claim 1.

9. The polymers of claim 4, 5 and 6, wherein
L^1 and L^2 are independently from each other and at each occurrence 5 to 20 membered heteroarylene,

wherein 5 to 20 membered heteroarylene is selected from the group consisting of



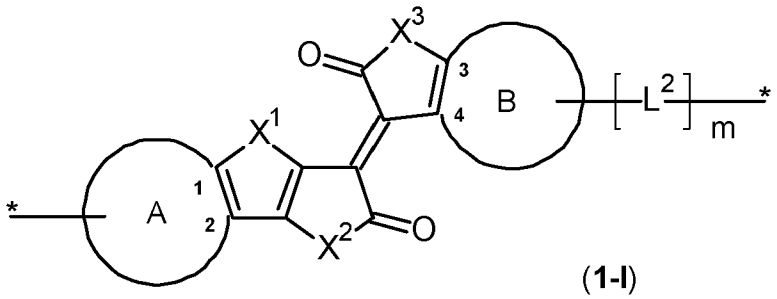
and



wherein
5 to 20 membered heteroarylene is unsubstituted.

10. The polymers of claim 7, 8 or 9, wherein
n is 0, 1 or 2, and
m is 0, 1 or 2.

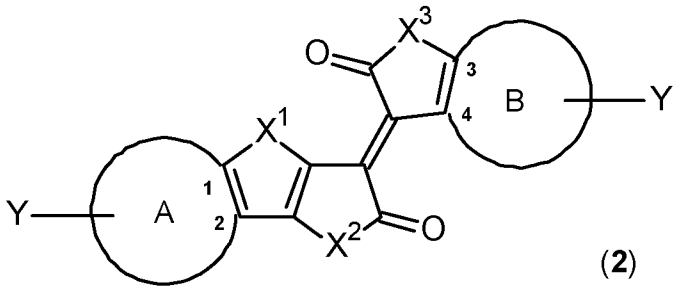
11. A process for the preparation of the polymers of claim 1, wherein n is 0 and which are of formula (**1-I**)



(**1-I**)

wherein X^1, X^2, X^3, A, B, L^2 and m are as defined in claim 1,

which process comprises the step of treating a compound of formula (**2**)



(**2**)

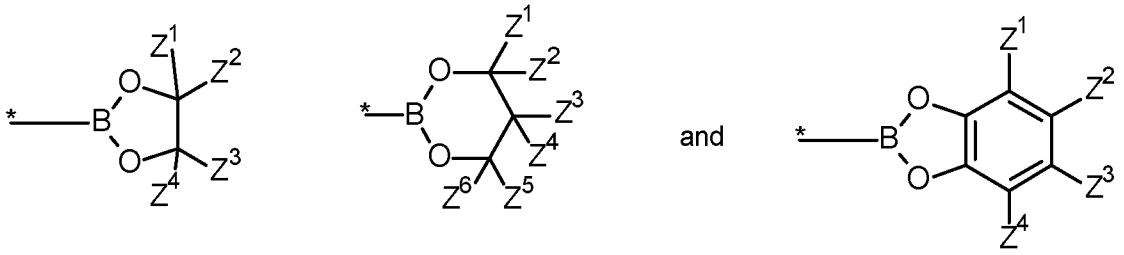
wherein Y is at each occurrence I, Br, Cl or O-S(O)$_2$CF$_3$, and X^1, X^2, X^3, A and B are as defined for the compound of formula (**1-I**)

with m mol equivalents of a compound of formula (**3**)

$$Z^a—L^2—Z^b \qquad (3)$$

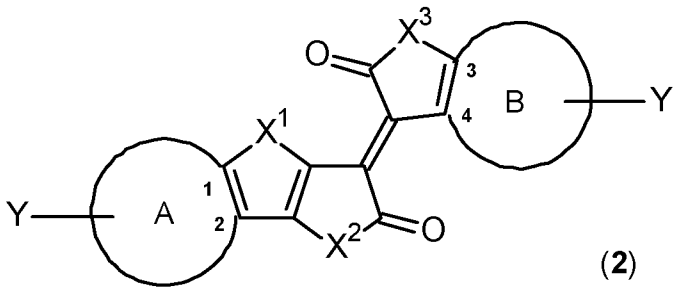
wherein
L^2 is as defined for the compound of formula (**1-I**), and

Z^a and Z^b are independently selected from the group consisting of $B(OZ^1)(OZ^2)$, $SnZ^1Z^2Z^3$,



wherein Z^1, Z^2, Z^3, Z^4, Z^5 and Z^6 are independently from each other and at each occurrence H or C_{1-4}-alkyl.

12. Intermediates of formula (**2**)



(**2**)

wherein

X^1, X^2, X^3, A and B are as defined in claim 1, and

Y is at each occurrence I, Br, Cl or O-S(O)$_2$CF$_3$.

13. Electronic devices comprising a polymer of any of claims 1 to 10.

14. The electronic device of claim 13, wherein the electronic device is an organic field effect transistor

15. Use of the polymers of any of claims 1 to 10 as semiconducting material.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2015/055118

A. CLASSIFICATION OF SUBJECT MATTER

C07D 495/14(2006.01)i; C08G 61/12(2006.01)i; H01L 51/05(2006.01)i; H01L 51/00(2006.01)i; H01B 1/12(2006.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

C07D495/-; C08G61/-; H01L51/-; H01B1/-

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPI, EPODOC, CNPAT, CNKI, REGISTRY, CAPLUS: photoelectric, electronic, FET, OFET, semiconduct+

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2009053291 A1 (CIBA HOLDING INC.) 30 April 2009 (2009-04-30) the whole document	1-15
A	CN 103626975 A (HEFEI UNIVERSITY OF TECHNOLOGY) 12 March 2014 (2014-03-12) the whole document	1-15
A	JP 2012109365 A (KONICA MINOLTA HOLDINGS INC.) 07 June 2012 (2012-06-07) the whole document	1-15

☐ Further documents are listed in the continuation of Box C. ☑ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
22 October 2015	**27 November 2015**
Name and mailing address of the ISA/CN **STATE INTELLECTUAL PROPERTY OFFICE OF THE P.R.CHINA** **6, Xitucheng Rd., Jimen Bridge, Haidian District, Beijing 100088, China**	Authorized officer **XIA,Fengjuan**
Facsimile No. **(86-10)62019451**	Telephone No. **(86-10)61648380**

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/IB2015/055118

Patent document cited in search report	Publication date (day/month/year)	Patent family member(s)	Publication date (day/month/year)
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		US 8758880 B2	24 June 2014
		JP 5460603 B2	02 April 2014
		KR 20100101575 A	17 September 2010
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		JP 2011501451 A	06 January 2011
		CA 2703438 A1	30 April 2009
		CN 101835821 B	01 May 2013
		CN 101835821 A	15 September 2010
CN 103626975 A	12 March 2014	None	
JP 2012109365 A	07 June 2012	None	