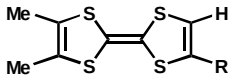
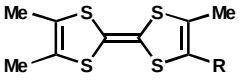


R	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)	reference
COOH	190-192	CH_3CN[d)]				5
$COOCH_3$	132-134	CH_3CN[c)]				6
$C_{17}H_{35}$		hexane-$CHCl_3$[b)]				1
$C(S)NHCH_3$	171-172	$CHCl_3$	0.41	0.79	CH_3CN 0.1M TBAP	2
$(CH_2)_8COOCH_3$						3
$(CH_2)_8COOH$						3
$C_6H_4OC(O)CH_3$[p]	130	$CHCl_3$				4
C_6H_4OH[p]	192	$CHCl_3$				4
$(CH_2)_8CONH(CH_2)_{10}COOH$						3
$(CH_2)_8[CONH(CH_2)_{10}]_2COOH$						3

[a]Solvent for ^{1}HNMR. [b]Solvent for preparation of LB film. [c]Solvent for recrystallization. [d]Solvent for UV.

(1) S. V. Ayrape. Tians, T. S. Berzina, S. A. Shikin, amd V. I. Troisky, *Thin. Solid. Films*., **210**, 261 (1992).
(2) A. J. Moore, M. R. Bryce, A. S. Batsanov, J. N. Heaton, C. W. Lehmann, J. A. K. Howard, N. Robertson, A. E. Underhill, and I. F. Perepichka, *J. Mater. Chem*., **8**, 1541 (1998).
(3) K. Lerstrup, M. Jørgensen, and S. Rosenkilde, *Synth. Met.*, **42**, 1475 (1991).
(4) J. M. Fabre, D. Serhani, K. Saoud, and A. K. Gouasmia, *Bull. Soc. Chim. Belg.*, **102**, 615 (1993).
(5) Ya. N. Kreitsberga, and O. Ya. Neiland, *J. Org. Chem. USSR.*, **22**, 2131 (1986).
(6) Ya. N. Kreitsberga, R. B. Kampare, and O. Ya. Neiland, *Chem. Heterocycl. Comp.*, 358 (1982).

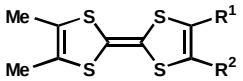


R	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)		reference
H							4
$C_{18}H_{37}$	67-68						1
CH_2OH	204	acetone	0.29	0.68	CH_3CN	0.1M TBAP [c)]	1
CHO	217-218	CH_2Cl_2[b)]	0.46	0.86	CH_3CN	0.1M TBAP [c)]	1
COOH	170-180	toluene[b)]	0.43	0.73	CH_3CN	0.1M TBAP [c)]	1
$COOCH_3$	142						8
$COOCH_2C_6H_5$	165						9
CH_2OCH_3	145-146	acetone				0.1M TBAP [c)]	1
$C(S)NHCH_3$	174-175	toluene[b)]	0.38	0.76	CH_3CN	0.1M TBAP [c)]	2
$CH_2OC(O)CH_3$	136-137	acetone	0.35	0.74	CH_3CN	0.1M TBAP [c)]	1
CH=CHCHO	178-179	acetone	0.44	0.8	CH_3CN	0.1M TBAP [c)]	1
CH=CHC(O)OEt	128-129	acetone	0.4	0.77	CH_3CN	0.1M TBAP [c)]	1
C(O)Ph	127-128	CH_3CN[b)]	0.44	0.82	CH_3CN	0.1M TBAP [c)]	1
CH(OH)Ph	105-106	acetone	0.31	0.7	CH_3CN	0.1M TBAP [c)]	1
C(O)NHPh	190-191	CH_3CN[b)]	0.39	0.77	CH_3CN	0.1M TBAP [c)]	1
C(S)NHPh	173-175	CH_3CN[b)]	0.38	0.77	CH_3CN	0.1M TBAP [c)]	1
C(O)OEt	97-98	acetone	0.4	0.81	CH_3CN	0.1M TBAP [c)]	1

$C(O)C_{16}H_{33}$	84-85	acetone[b)]	0.4	0.8	CH_3CN	0.1M TBAP [c)]	1
$C_6H_4OC(O)CH_3^p$	232	$CHCl_3$					6
$C_6H_4OH^p$	165	$CHCl_3$					6
SC(O)Ph	163-164	acetone	0.39	0.73	CH_3CN	0.1M TBAP [c)]	1
COCl	193-194	acetone	0.37	0.73	CH_3CN	0.1M TBAP [c)]	1
SCH_3	119	hexane[b)]	0.28	0.73	CH_2Cl_2	0.1M TBAHP	3
$SC_{18}H_{37}$	68	hexane[b)]	0.27	0.78	CH_2Cl_2	0.1M TBAHP	3
$SCH_2C_6H_5$	127	hexane[b)]	0.27	0.81	CH_2Cl_2	0.1M TBAHP	3
$S(CH_2)_{10}COOC_2H_5$	59	hexane[b)]	0.77	0.77	CH_2Cl_2	0.1M TBAHP	3
$S(CH_2)_{15}COOC_2H_5$	71	hexane[b)]	0.27	0.78	CH_2Cl_2	0.1M TBAHP	3
$S(CH_2)_{10}COOCH_3$							5
$S(CH_2)_{15}COOCH_3$							5
$S(CH_2)_{10}COOH$							5
$S(CH_2)_{15}COOH$							5
$S(CH_2)_{10}CONH(CH_2)_{10}COOH$							5
$S(CH_2)_{15}CONH(CH_2)_{10}COOH$							5
PPh_2	158-160	CH_3CN[b)]	0.23	0.74	CH_2Cl_2	0.1M TBAHP[d]	7

[a]Solvent for ^{1}HNMR. [b]Solvent for recrystallization. [c]V vs. Ag / AgCl. [d]V vs. Fc^+ / Fc.

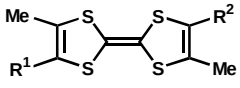
(1) A. J. Moore, M. R. Bryce, A. S. Batsanov, J. C. Cole, and J. A. K. Howard, *Synthesis* , 675 (1995).
(2) A. J. Moore, M. R. Bryce, A. S. Batsanov, J. N. Heaton, C. W. Lehmann, J. A. K. Howard, N. Robertson, A. E. Underhill, and I. F. Perepichka, *J. Mater. Chem* ., **8**, 1541 (1998).
(3) M. Jørgensen, K. A. Lerstrup, and K. Bechgaard, *J. Org. Chem* ., **56**, 5684 (1991).
(4) K. Lerstrup, I. Johannsen, M. Jørgensen, *Synth. Met.,* **27**, B9. (1988).
(5) K. Lerstrup, M. Jørgensen, and S. Rosenkilde, *Synth. Met.,* **42**, 1475 (1991).
(6) J. M. Fabre, D. Serhani, K. Saoud, and A. K. Gouasmia, *Bull. Soc. Chim. Belg.,* **102**, 615 (1993).
(7) M. Fourmigue, S. Jarshow, and P. Batail, *Phosphorus, Sulfur, and Silicon,* **175**, 175 (1993).
(8) H. Mora, J. M. Fabre, L. Giral, and C. Montginoul, *Bull. Soc. Chim. Belg.,* **101**, 741 (1992).
(9) H. Mora, J. M. Fabre, L. Giral, C. Montginoul, R. Sagnes, and F. Schue, *Makromol. Chem.,* **193**, 1337 (1992).



R^1	R^2	mp/°C	solubility[a)]	E_1	E_2	CV (vs. Ag / AgCl)		reference
$S(CH_2)_2CN$	SCH_3	145-147	MeOH [b)]					2
$S(CH_2)_2CN$	SCH_3	86-87	hexane [b)]					2
$COOCH_3$	SCH_3	145	MeOH [b)]	0.50	0.86	CH_3CN	TBAHP	4
$C_6H_4CH_3^p$	$SC_{18}H_{37}$	65-70	CH_3CN	0.47	0.82	CH_3CN	0.1M TBAP	1
$C_{16}H_{33}$	$C_{17}H_{35}$		CH_3CN[c)]					3

[a]Solvent for CV. [b]solvent for recrystallization. [c]Solvent for UV.

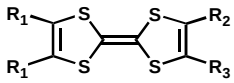
(1) M. R. Bryce, A. J. Moore, D. Lorcy, A. S. Dhindsa, and A. Robert, *J. Chem. Soc., Chem. Commun* ., 470 (1990).
(2) L. Binet, J. M. Fabre, *Synthesis* , 1179 (1997)
(3) Ya. N. Kreitsberga, D. V. Bite, V. E. Kampar, R. B. Kampare, and O. Ya. Neiland, *J. Org. Chem. USSR.,* **17**, 1055 (1980).
(4) I. V. Sudmale, G. V. Tormos, V. Yu. Khodorkovsky, A. S. Edzina, O. J. Neilands, and M. P. Cava, *J. Org. Chem.,* **58**, 1355 (1993).



R^1	R^2	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)		reference
SCH_3	SCH_3		CH_3CN	0.455	0.760	CH_3CN		1
H	COOH	184						2
H	$COOCH_3$	88-94						2
H	$COOC_2H_5$	62-64	hexane[b)]	0.43	0.790	CH_3CN	0.1M TEAP	3
H	$COOCH_2C_6H_5$	127						4

[a]Solvent for CV. [b]Solvent for recrystallization.

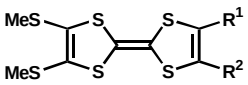
(1) M. Jørgensen, K. Bechgaard, T. Bjørnholm, P. Sommer-Larsen, L. G. Hansen, and K. Schaumburg, *J. Org. Chem* ., **59**, 5877 (1994).
(2) H. Mora, J. M. Fabre, L. Giral, and C. Montginoul, *Bull. Soc. Chim. Belg.,* **101**, 741 (1992).
(3) D. C. Green, *J. Org. Chem.,* **44**, 1476 (1979).
(4) H. Mora, J. M. Fabre, L. Giral, C. Montginoul, R. Sagnes, and F. Schue, *Makromol. Chem.,* **193**, 1337 (1992).



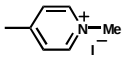
R_1	R_2	R_3	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)		reference
CO_2CH_3	H	CH_3	82-85						4
$CO_2C_2H_5$	H	CH_3	33-34	hexane[c)]	0.54	0.87	CH_3CN	0.1M TEAP	5
	H	CH_3							1
$-(CH_2)_3-$	CH_3	C_2H_5	132	$CHCl_3$	0.16	0.52	CH_3CN	$NaClO_4$	2
	H	CO_2CH_3	141	CH_2Cl_2[b)]					3

[a]Solvent for ^{1}HNMR. [b]Solvent for chromatography. [c]Solvent for recrystallization.

(1) F. Darviche, M.T. Babonneau, H.J. Cristau, E. Torreilles, and J. M. Fabre, *Synth. Met* ., **102**, 1662 (1999).
(2) J. M. Fabre, E. Torreilles, J. P. Gibert, M. Chanaa, and L. Giral, *Tetrahedron Lett.,* 4033 (1977).
(3) G. C. Papavassiliou, D. J. Lagouvardos, and V. C. Kakoussis, *Z. Naturforsch B,* **46**, 1730 (1991).
(4) H. Mora, J. M. Fabre, L. Giral, and C. Montginoul, *Bull. Soc. Chim. Belg.,* **101**, 741 (1992).
(5) D. C. Green, *J. Org. Chem.,* **44**, 1476 (1979).

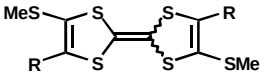


R^1	R^2	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)		reference
H	$COOCH_3$		CH_3CN[b)]					1
H	CH_3	72-73	$CHCl_3$	0.39	0.71	CH_3CN	0.1M TBAP	2
H	$C(S)NHCH_3$	134-135	CH_3CN	0.52	0.83	CH_3CN	0.1M TBAP [d)]	3

H	Cl		4
H	Br		4
H	I		4
H		CH_2Cl_2 [c)]	5
H		CH_2Cl_2 [c)]	5

[a]Solvent for ^{1}HNMR. [b]Solvent for UV. [c]Solvent for preparation of LB film. [d]V vs. Ag / AgCl.

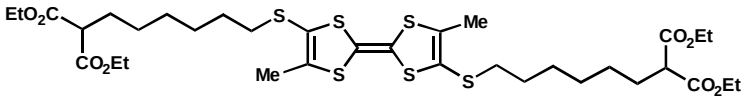
(1) G. C. Papavassiliou, J. S. Zambounis, G. A. Mousdis, V. Gionis, and S. Y. Yiannopoulos, *Mol. Cryst. Liq. Cryst*., **156**, 269 (1988).
(2) M. Fourmigué, F. C. Krebs, and J. Larsen, *Synthesis*, 509 (1993).
(3) A. J. Moore, M. R. Bryce, A. S. Batsanov, J. N. Heaton, C. W. Lehmann, J. A. K. Howard, N. Robertson, A. E. Underhill, and I. F. Perepichka, *J. Mater. Chem*., **8**, 1541 (1998).
(4) H. Suzuki, H. Itoh, E. Ogura, Y. Kuwatani, H. Matsuyama, and M. Iyoda, *Abstracts of 70th Annual Meeting of the Chemical Society of Japan II*, 3G4 (1996).
(5) L. M. Goldenberg, J. Y. Becher, O. P. Levi, V. Y. Khodorkovsky, M. R. Bryce, and M. C. Petty, *J. Chem. Soc., Chem. Commun*., 475 (1995).



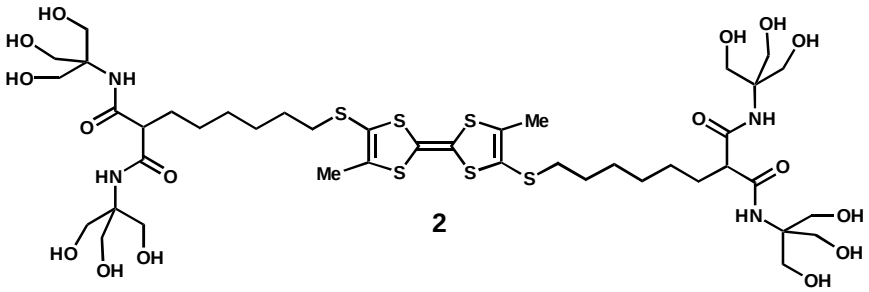
R	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)		reference
$(CH_2)_4Cl$	68-70	$CHCl_3$	0.51	0.86	CH_2Cl_2	0.1M TBAHP	1
$(CH_2)_5Cl$	oil	$CHCl_3$	0.50	0.85	CH_2Cl_2	0.1M TBAHP	1
$(CH_2)_2O(CH_2)_2Cl$	oil	$CHCl_3$	0.49	0.82	CH_2Cl_2	0.1M TBAHP	1
$(CH_2)4I$	54-55	$CHCl_3$	0.51	0.76	CH_3CN	0.1M TBAHP	1
$(CH_2)_5I$	oil	$CHCl_3$	0.51	0.76	CH_3CN	0.1M TBAHP	1
$(CH_2)_2O(CH_2)_2I$	oil	$CHCl_3$	0.46	0.71	CH_3CN	0.1M TBAHP	1
$S(CH_2)_2CN$							2

[a]Solvent for ^{1}HNMR.

(1) K. B. Simonsen, K. Zong, R. D. Rogers, and M. P. Cava, *J. Org. Chem.*, **62**, 679 (1997).
(2) J. Becher, J. Lau, P. Leriche, P. Mørk, and N. Svenstrup, *J. Chem. Soc., Chem. Commun.*, 2715 (1994).



1

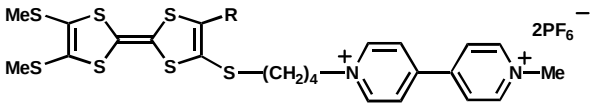


2

	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)	reference
1	55-57	$CHCl_3$				1
2	145-150	DMSO	0.46	0.78	CH_3CN	1

[a]Solvent for ^{1}HNMR.

(1) M. Jørgensen, K. Bechgaard, T. Bjørnholm, P. Sommer-Larsen, L. G. Hansen, and K. Schaumburg, *J. Org. Chem*., **59**, 5877 (1994).



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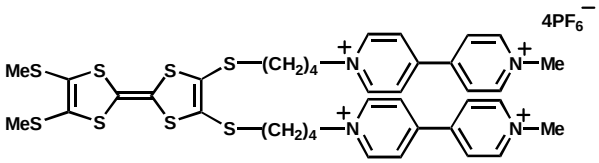

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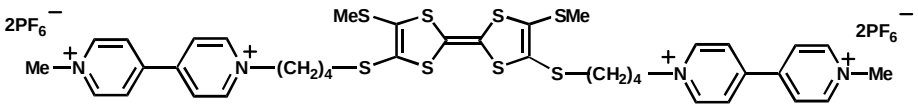
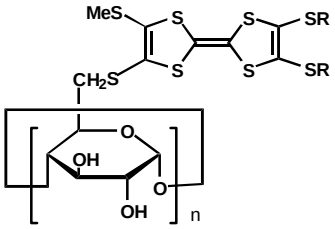


3

	R	mp/°C	solubility[a)]	E_1	E_2	E_3	E_4	(vs. SCE)		reference
1	SCH_3	186 (dec.)	DMSO	-0.83	-0.39	0.52	0.77	CH_3CN	0.1M TBAHP	1
	$S(CH_2)_3CH_2I$	180 (dec.)	DMSO	-0.83	-0.39	0.53	0.78	CH_3CN	0.1M TBAHP	1
2			DMSO	-0.84	-0.39	0.53	0.78	CH_3CN	0.1M TBAHP	1
3			DMSO	-0.85	-0.38	0.53	0.78	CH_3CN	0.1M TBAHP	1

[a]Solvent for ^{1}HNMR.

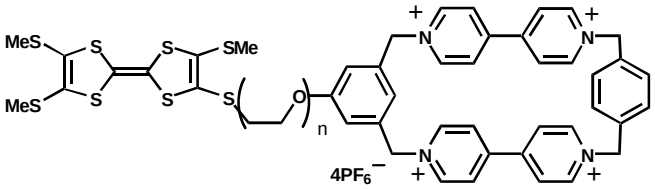
(1) K. B. Simonsen, K. Zong, R. D. Rogers, and M. P. Cava, *J. Org. Chem.*, **62**, 679 (1997).



n	R	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)	reference
7	CH_3		CH_2Cl_2-MeOH-AcOH				1
7	C_5H_{13}		CH_2Cl_2-MeOH-AcOH				1
7	C_8H_{17}		CH_2Cl_2-MeOH-AcOH				1
8	CH_3		CH_2Cl_2-MeOH-AcOH				1

[a]Solvent for chromatography.

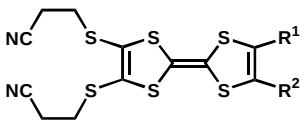
(1) M. Sallé, Y. Le Bras, R. Andreu, P. Leriche, C. Mingotaud, and A. Gorgues, *Synth. Met*., **94**, 47 (1998).



n	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)	reference
1		CH_3CN				1
3		CH_3CN				1

[a]Solvent for ^{1}HNMR.

(1) M. B. Nieslsen, S. B. Nielsen, and J. Becher, *Chem. Commun.*, 475 (1998).



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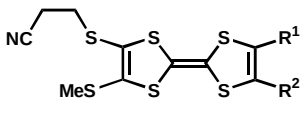


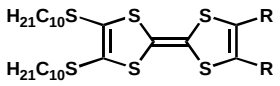
2

	R^1	R^2	mp/°C	solubility[a)]	E_1	E_2	CV (vs. Ag / AgCl)		reference
1	SCH_3	$SC_{18}H_{37}$	104-105	EtOH[b)]	0.59	0.98	CH_2Cl_2	TEAHP	1
2	$S(CH_2)_2CN$	$S(CH_2)_2CN$	146-148	CH_2Cl_2-ether[b)]	0.58	0.89	CH_2Cl_2	TEAHP	1
	SCH_3	SCH_3	102-104	[b, d)]	0.57	0.92	CH_2Cl_2	TEAHP	1
	SC_2H_5	SC_2H_5	81-82	$CHCl_3$	0.56	0.91	CH_2Cl_2	TEAHP	1
	-$S(CH_2)_2S$-		109-110	CH_2Cl_2-ether[b)]	0.57	0.92	CH_2Cl_2	TEAHP	1
	$S(CH_2)_2Ph$	$S(CH_2)_2Ph$	129-129.5	CH_2Cl_2-ether[b)]	0.55	0.87	CH_2Cl_2	TEAHP	1

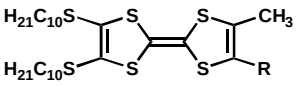
SC_5H_{11}	SC_5H_{11}	84	CH_2Cl_2-ether[c]	0.55	0.89	CH_2Cl_2	TEAHP	1
$SC_{10}H_{21}$	$SC_{10}H_{21}$	92	$CHCl_3$	0.55	0.89	CH_2Cl_2	TEAHP	1
$SC_{18}H_{37}$	$SC_{18}H_{37}$	95-96	$CHCl_3$[c]	0.58	0.88	CH_2Cl_2	TEAHP	1
SCH_3	$SC_{18}H_{37}$	89-90	CH_2Cl_2-ether[c]	0.54	0.89	CH_2Cl_2	TEAHP	1
CO_2Me	CO_2Me	78-79	$CHCl_3$	0.7	1.01	CH_2Cl_2	TEAHP	1
$S(CH_2)_2CN$	SCH_3 (*cis/trans*)							1
$S(CH_2)_2Ph$	SCH_3		$CHCl_3$-ether[b]					1

[a]Solvent for ^{1}HNMR. [b]Solvent for recrystallization. [c]Solvent for chromatography. [d]Toluene-cyclehexane.

(1) K. B. Simonsen, N. Svensrup, J. Lau, O. Simonsen, P. Mørk, G. J. Kristensen, and J. Becher, *Synthesis*, 407 (1996).



1

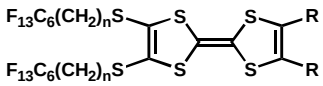


2

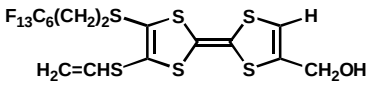
	R	mp/°C	solubility[a]	E_1	E_2	CV (vs. SCE)	reference
1	COOH	175-177	$CHCl_3$				1
	$COOCH_3$	oil	$CHCl_3$				1
	SCH_2COOH	126-129 (dec.)	DMSO				1
	SCH_2COOCH_3	67-69	$CHCl_3$				1
2	$S(CH_2)_3COOH$	74-75	$CHCl_3$				1
	$S(CH_2)_3COOCH_3$	38-40	$CHCl_3$				1
	$S(CH_2)_3CN$	66-69	$CHCl_3$				1
	$S(CH_2)_3NH_2$	110-111	$CHCl_3$				1

[a]Solvent for ^{1}HNMR.

(1) R. P. Parg, J. D. Kilburn, M. C. Petty, C. Pearson, and T. G. Ryan, *Synthesis*, 613 (1994).



1

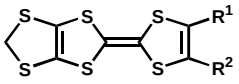


2

	n	R	mp/°C	solubility[a]	E_1	E_2	CV (vs. SCE)		reference
1	2	CO_2CH_3		CH_2Cl_2	0.82	1.17	CH_2Cl_2	TBAHP	1
	2	$-S(CH_2)_2S-$		CH_2Cl_2	0.65	1.00	CH_2Cl_2	TBAHP	1
	11	SCH_2COOCH_3	70.5-71	heptane[b]					2
2				CH_2Cl_2	0.51	0.93	CH_2Cl_2	TBAHP	1

[a]Solvent for CV. [b]Solvent for preparation of LB film.

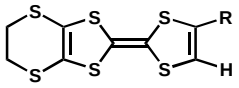
(1) T. Nozdryn, J. Cousseau. R. Andreu, M. Sallé, A. Guy, J. Roncali, A. Gorgues, M. Jubault, S. Uriel, J. Orduna, and J. Garín, *Synth. Met*., **70**, 1159 (1995).
(2) E. Dupart, B. Agricole, S. Ravaine, C. Mingotaud, O. Fichet, P. Delhaes, H. Ohnuki, G. Munger, and R. M. Leblanc, *Thin Solid Films*, **243**, 575 (1994).

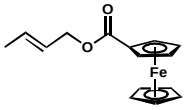


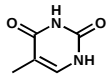
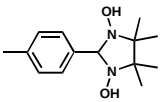
R^1	R^2	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)	reference
H	I						1
H	$COOCH_3$	193	CH_3CN				2
SCH_3	$SC_{18}H_{37}$	46-49	CH_3CN				3
SCH_3	$S(CH_2)_8OH$	oil	CH_3CN				3

[a]Solvent for UV.

(1) T. Imakubo, H. Sawa, and R. Kato, *Abstracts of Symposium on Molecular Structure*, 2B23 (1995).
(2) G. C. Papavassiliou, J. S. Zambounis, G. A. Mousdis, V. Gionis, and S. Y. Yiannopoulos, *Mol. Cryst. Liq. Cryst*., **156**, 269 (1988).
(3) J. S. Zambounis, C. W. Mayer, *Tetrahedron Lett*., **32**, 2737 (1991).

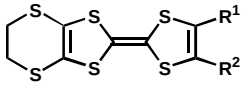


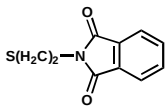
R	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)		reference
CH_3			0.41	0.75		0.1M TBAP	1
CH_2OH	121-123	$CHCl_3$-ether[b)]	0.52	0.7	DMF	0.1M TBAP	2
$C_{16}H_{33}$		hexane-$CHCl_3$[c)]					3, 4
$CH=CHCH_2OH$							14
		CH_2Cl_2[f)]	0.51 0.96	0.73 (E_3)	CH_2Cl_2	0.1M TBAHP	14
$CH=CHCO_2CH_3$							14
CH=CHCHO		$CHCl_3$					14
$-(CH_2)_3C\equiv CH$							5
$-(CH_2)_8C\equiv CH$							5
$-(CH_2)_3C\equiv C-C\equiv C(CH_2)_{11}CH_3$	43-45	$CHCl_3$	0.48	0.68	DMF	[e)]	5
$-(CH_2)_8C\equiv C-C\equiv C(CH_2)_4CH_3$	72-74	$CHCl_3$	0.48	0.68	DMF	[e)]	5
$-(CH_2)_8C\equiv C-C\equiv C(CH_2)_{11}CH_3$	52-54	CH_2Cl_2	0.48	0.68	DMF	[e)]	5
COOH	216-217(dec.)	DMSO[a)]					11
$COOCH_3$	193	CH_3CN[c)]					6
$CH_2C(O)OC_{17}H_{35}$							7
$C(O)O(CH_2)_2C_6F_{13}$			0.63	1.08	CH_2Cl_2	0.1M TBAHP [e)]	13
CHO	152-153	$CHCl_3$	0.59	0.91	CH_3CN	0.1M TBAHP [e)]	8
C(O)Cl	165-168(dec.)	$CHCl_3$[a)]					
$C(O)NH_2$	214-215(dec.)	THF[b)]	0.49	0.81	CH_3CN	0.05M TBAHP	11
C(ONHMe	216-217	CH_3CN[b)]	0.5	0.82	CH_3CN	0.05M TBAHP	11
$C(O)NMe_2$	177-178	CH_3CN[b)]	0.47	0.8	CH_3CN	0.05M TBAHP	11
$C(O)NHNH_2$	194-195	acetone[b)]	0.48	0.88	CH_3CN	0.05M TBAHP	11

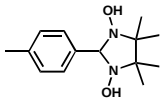
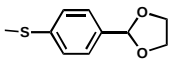
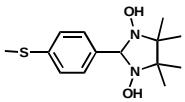
$C(S)NHCH_3$	185-186	CS_2	0.53	0.86	CH_3CN	TBAT	9
							12
$C_6H_4CHO^p$		$CHCl_3$					15
		DMSO					15
Cl	174-176	$CHCl_3$-CS_2	0.57	0.88	PhCN	0.1M TBAP	10
Br	113-114	$CHCl_3$-CS_2	0.56	0.88	PhCN	0.1M TBAP	10
I	119-120	$CHCl_3$-CS_2	0.553	0.85	PhCN	0.1M TBAP	10

[a]Solvent for ^{1}HNMR. [b]Solvent for recrystallization. [c]Solvent for preparation of LB film. [d]Solvent for UV. [e]V vs. Ag / AgCl. [f]Solvent for CV.

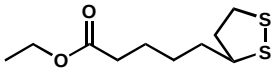
(1) V. Yu. Khodorkovskii, A. Edžifna, and O. Neilands, *J. Mol. Electronics*, **5**, 33 (1989).
(2) Ph. Blanchard, M. Sallé, G. Duguay, M. Jubault, and A. Gorgues, *Tetrahedron Lett*., 2685 (1992).
(3) S. V. Ayrapetiants, T. S. Berzina, S. A. Shikin, amd V. I. Troitsky, *Thin. Solid. Films*., **210/211**, 261 (1992).
(4) F. Rustichelli, S. Dante, P. Mariani, I. V. Myagkov, and V. I. Troitsky, *Thin Solid Films*, **242**, 267 (1994).
(5) V. Yu. Khodorkovsky, G. V. Tormos, O. Ya. Neilands, N. V. Kolotilo, and A. Ya. Il'chenko, *Tetrahedron Lett*., **33**, 973 (1992).
(6) G. C. Papavassiliou, J. S. Zambounis, G. A. Mousdis, V. Gionis, and S. Y. Yiannopoulos, *Mol. Cryst. Liq. Cryst*., **156**, 269 (1988).
(7) L. M. Goldenberg, R. Andreu, M. Savirón, A. J. Moore, J. Garín, M. R. Bryce, and M. C. Petty, *J. Mater. Chem*., **5**, 1593 (1995).
(8) J. Garín, J. Orduna, M. Savirón, M. R. Bryce, A. J. Moore, and V. Morisson, *Tetrahedron*, **52**, 11063 (1996).
(9) A. J. Moore, M. R. Bryce, A. S. Batsanov, J. N. Heaton, C. W. Lehmann, J. A. K. Howard, N. Robertson, A. E. Underhill, and I. F. Perepichka, *J. Mater. Chem*., **8**, 1541 (1998).
(10) U. Kux, H. Suzuki, S. Sasaki, and M. Iyoda, *Chem. Lett*., 183 (1995).
(11) K. Heuzé, M. Fourmigue, and P. Batail, *J. Mater, Chem*., **9**, 2373 (1999).
(12) S. Maki, Y. Morita, and K. Nkasuji, *Abstracts of 70th Annual Meeting of the Chemical Society of Japan II*, 3 PA 152 (1999).
(13) J. Garín, J. Orduna, T. Sierra, R. Andreu, J. Cousseau, T. Nozdryn, *Synth. Met*., **102**, 1637 (1999).
(14) R. Andreu, J. Garín, J. Orduna, M. Savirón, and S. Uriel, *Tetrahedron Lett.*, **36**, 4319 (1995).
(15) J. Nakazaki, M. M. Matsushita, A. Izuoka, and T. Sugawara, *Tetrahedron Lett*., **40**, 5027 (1999).



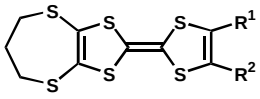
R^1	R^2	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)		reference
CHO	$CH(OC_2H_5)_2$							1
CH_2OH	$COOCH_3$							1
SCH_3	$S(CH_2)_2CN$			[f)]		CH_2Cl_2	0.1M TBAHP	7
SCH_3	$S(CH_2)_2OH$	80-81	CH_2Cl_2 [d)]	[f)]		CH_2Cl_2	0.1M TBAHP	7, 8
SCH_3	$S(CH_2)_2OSO_2Me$	oil						8
SCH_3		oil	CH_2Cl_2-hexane [d)]					8
SCH_3	$S(CH_2)_2NH$	semisolid	CH_2Cl_2-MeOH [d)]					8
SCH_3	$S(CH_2)_8OH$	oil	CH_3CN					2
SCH_3	$SC_{17}H_{35}$	46-49	CH_3CN					2

SCH_3	SCH_2CH_2COOEt	oil	CH_2Cl_2-hexane [d]					6
SCH_3	SCH_2CONH_2	139	$CHCl_3$ [b]	0.51	0.84	CH_2Cl_2	0.1M TBAP[c]	5, 6
SCH_3	$SCH_2C(O)ONH$							3
SCH_3	$SC_6H_4CHO^p$							6
SCH_3	$C_6H_4CHO^p$		$CHCl_3$ [b]					9
SCH_3			DMSO [b]					9
SCH_3								9
SCH_3	$S'C_6H_4CHO^p$		$CHCl_3$ [b]					9
SCH_3			DMSO [b]					9
a*	C(O)OMe		$CHCl_3$ [e]	0.73	0.96	THF	0.1M TBAP[c]	4

[a]Solvent for UV. [b]Solvent for ^{1}H-NMR. [c]V vs Ag / AgCl. [d]Solvent for columu chromatography.
[e]Solvent for recrystallization. [f]0.44V < E1 < 0.59V and 0.78V < E2 < 0.92V

a* : 

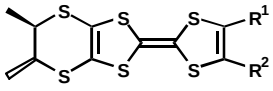
(1) Ph. Blanchard, M. Sallé, G. Duguay, M. Jubault, and A. Gorgues, *Tetrahedron Lett*., **33**, 2685 (1992).
(2) J. S. Zambounis, and C. W. Mayer, *Teterahedron Lett*., **32**, 2737 (1991).
(3) G. Ono, M. Matsushita, T. Sugawara, *Abstracts of Symposium on Molecular Structure*, 3bP79 (1994).
(4) H. Liu, S. Liu, and L. Echegoyan, *Chem. Commun*., 1493 (1999).
(5) G. Ono, M. Matsushita, H. Terao, A. Izuoka, T. Sugawara, and T. Mochida, *Abstracts of 76th Annual Meeting of the Chemical Society of Japan II*, 4 C5 08 (1999).
(5) J. Nakazaki, A. Izuoka, and T. Sugawara, *Abstracts of 76th Annual Meeting of the Chemical Society of Japan II*, 3 PA 137 (1999).
(6) G. Ono, A. Izuoka, T. Sugawara, and Y. Sugawara, *J. Mater. Chem*., **8**, 1703 (1998).
(7) J. Legros, F. Dahan, L. Binet, J. Fabre, Synth. Met., 102, 1632 (1999).
(8) L. Binet, J. Fabre, *Synthesis*, 1179 (1997).
(9) J. Nakazaki, M. M. Matsushita, A. Izuoka, and T. Sugawara, *Tetrahedron Lett*., **40**, 5027 (1999).



R^1	R^2	mp/°C	solubility[a]	E_1	E_2	CV (vs. SCE)	reference
H	$COOCH_3$		CH_3CN				1
H	$C_{16}H_{33}$		hexane-$CHCl_3$ [b]				2, 3

[a]Solvent for UV. [b]Solvent for preparation of LB film.

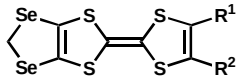
(1) G. C. Papavassiliou, J. S. Zambounis, G. A. Mousdis, V. Gionis, and S. Y. Yiannopoulos, *Mol. Cryst. Liq. Cryst*., **156**, 269 (1988).
(2) S. V. Ayrapetiants, T. S. Berzina, S. A. Shikin, amd V. I. Troitsky, *Thin Solid Films*, **210/211**, 261 (1992).
(3) F. Rustichelli, S. Dante, P. Mariani, I. V. Myagkov, and V. I. Troitsky, *Thin Solid Films*, **242**, 267 (1994).



R^1	R^2	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)	reference
SCH_2CH_2Br	$CH_2O(CH_2)_2Si(CH_3)_3$	76-78	CH_3CN				1

[a]Solvent for UV.

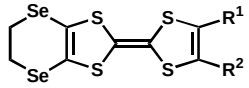
(1) J. S. Zambounis, and C. W. Mayer, *Teterahedron Lett*., **32**, 2737 (1991).



R^1	R^2	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)	reference
H	$COOCH_3$	210	$CHCl_3$				1

[a]Solvent for ^{1}HNMR.

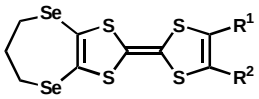
(1) G. C. Papavassiliou, V. C. Kakoussis, J. S. Zambounis, and G. A. Mousdis, *Chem. Scr*., **29**, 123 (1989).



R^1	R^2	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)	reference
H	CHO	159-163	$CHCl_3$	0.55	0.85	$MeCN\text{-}CHCl_3$ 0.1M TBAHP	1
H	$COOCH_3$	220	CH_2Cl_2				1
H	CH_2OH	126	CH_2Cl_2-pentane[b)]	0.41	0.73	CH_3CN 0.1M TBAHP	1
H	$CH_2OC(O)C_{17}H_{3}$						1

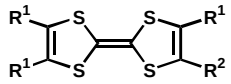
[a]Solvent for ^{1}HNMR. [b]Solvent for recrystallization.

(1) J. Garín, J. Orduna, M. Savirón, M. R. Bryce, A. J. Moore, and V. Morisson *Tetrahedron*, **52**, 11063 (1996).



R^1	R^2	mp/°C	solubility	E_1	E_2	CV (vs. SCE)	reference
H	$COOCH_3$						1

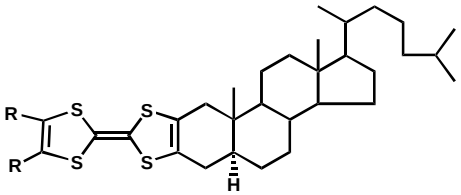
(1) G. C. Papavassiliou, V. C. Kakoussis, J. S. Zambounis, and G. A. Mousdis, *Chem. Scr*., **29**, 123 (1989).



R^1	R^2	mp/°C	solubility[a)]	E_1	E_2	CV (vs.Ag / AgCl)		reference
SePh	H	84						1
$TeCH_3$	H	82-84	$CHCl_3$					4
Br	H	146.5-148	hexane					3
CO_2Me	SCH_2CH_2CN	168-169	MeOH	0.76	1.08	CH_3CN	0.1M TBAHP	2
CO_2Me	S^-Cs^+	172-175	CH_3CN-Et_2O					2

[a]Solvent for recrystallization.

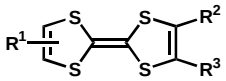
(1) J. Besancon, J. Padiou, and J. Szymoniak, *C. R. Acad. Sci. Paris, Ser. II,* **313**, 1395 (1991).
(2) J. Lau, O. Simonsen, and J. Becher, *Synthesis* ¸ 521 (1995).
(3) J. Nakayama, N. Toyoda, and M. Hoshino, *Heterocycles,* **24**, 1145 (1986).
(4) K. Tsutsui, K. Takimiya, Y. Aso, and T. Otsubo, *Tetrahedron Lett.,* **38**, 7569 (1997).



n	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)		reference
CH_3	224 (dec.)	$CHCl_3$	0.23	0.77	CH_2Cl_2	0.1M TBAP	1
$-S(CH_2)_2S-$	248(dec.)	MeOH-$CHCl_3$[b)]	0.38	0.85	CH_2Cl_2	0.1M TBAP	1
SCH_2CH_2OH	177-178	$CHCl_3$	0.40	0.80	CH_2Cl_2	0.1M TBAP	1
SCH_2CH_2CN	glass	$CHCl_3$	0.49	0.94	CH_2Cl_2	0.1M TBAP	1

[a]Solvent for ^{1}HNMR. [b]Solvent for recrystallization.

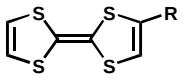
(1) M. P. Cava, J. Lau, K. B. Simonsen, and J. Becher, *J. Org. Chem.,* **62**, 6814 (1997).

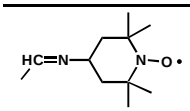
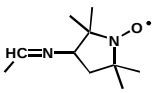
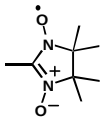
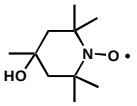
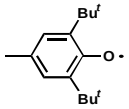
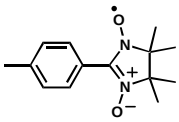


R^1	R^2	R^3	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)		reference
CO_2Bu	CO_2Bu	CO_2Me		$CHCl_3$	0.76	1.14	CH_3CN	0.1M TBAP [a)]	1, 2
CO_2Bu	CO_2Bu	CO_2Et		$CHCl_3$	0.75	1.05	CH_3CN	0.1M TBAP [a)]	1, 2
CO_2Bu	CO_2Bu	I	87-89	$CHCl_3$	0.71	1.01	CH_3CN	0.1M TBAP [a)]	1, 2
SCH_3	CH_3	$SCH=CH_2$							3

[a]Solvent for ^{1}HNMR.

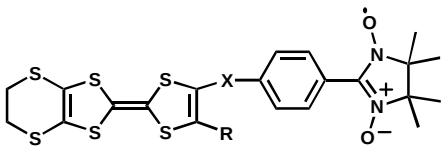
(1) V. Yu. Khodorkovskii, A. Edžifna, and O. Neilands, *J. Mol. Electronics*, **5**, 33 (1989).
(2) Ya. N. Kreitsberga, A. S. Édzhinya, R. B. Kampare, and O. Ya. Neiland, *J. Org. Chem. USSR*, **25**, 1312 (1989).
(3) M. Iyoda, H. Suzuki, and U. Kux, *Tetrahedron. Lett*., **36**, 8259 (1995).



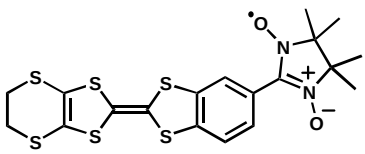
R	mp/°C	solubility[a)]	E_1	E_2	E_3	CV (vs. SCE)		reference
		*n*-heptane	0.57	0.88	0.92	CH_2Cl_2	TBAT	1, 2
		*n*-heptane	0.56	0.90	0.92	CH_2Cl_2	TBAT	2
	77.9 (dec.)	MTHF	0.32	0.77	1.00	CH_2Cl_2	0.1M TBAP	3
	>175 (dec.)	benzene	0.44	0.85		CH_3CN		4
	>172 (dec.)	benzene	0.44	0.88		CH_2Cl_2		4
		benzene	0.44	0.79		CH_2Cl_2	0.1M TBAP[b)]	5

[a]Solvent for ESR. [b]V vs. Ag / AgCl.

(1) T. Sugano, T. Fukasaka, and M. Kinoshita, *Synth. Met.*, **41-43**, 3281 (1991).
(2) T. Sugimoto, S. Yamaga, M. Nakai, K. Ohmori, M. Tsujii, H. Nakatsuji, H. Fujita, and J. Yamauchi, *Chem. Lett*., 1361 (1993).
(3) R. Kumai, M. M. Matsushita, A. Izuoka, and T. Sugawara, *J. Am. Chem. Soc.*, **116**, 4523 (1994).
(4) S. Nakatsuji, S. Satoki, K. Suzuki, T. Enoki, N. Kinoshita, and H. Anzai, *Synth. Met.*, **71**, 1819 (1995).
(5) J. Nakazaki, M. M. Matsushita, A. Izuoka, and T. Sugawara, *Tetrahedron Lett*., **40**, 5027 (1999).



1

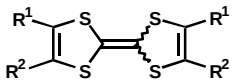


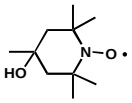
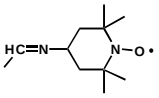
2

	R	X	mp/°C	solubility[a)]	E_1	E_2	E_3	CV (vs. Ag / AgCl)		reference
1	H	none		benzene	0.54	0.88		CH_2Cl_2	0.1M TBAP	1
	SCH_3	none		benzene	0.62	0.92	0.94	CH_2Cl_2	0.1M TBAP	1
	SCH_3	S		benzene	0.68	0.97	0.99	CH_2Cl_2	0.1M TBAP	1
2					0.62	0.9	1.04	PhCN	0.1M TBAP	2

[a]Solvent for ESR.

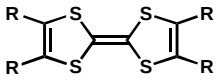
(1) J. Nakazaki, M. M. Matsushita, A. Izuoka, and T. Sugawara, *Tetrahedron Lett*., **40**, 5027 (1999).
(2) J. Nakazaki, Y. Ishikawa, A. Izuoka, and T. Sugawara, *Abstracts of Symposium on MolecularStructure*, 3A10 (1999).

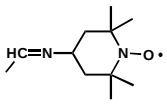
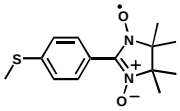


R^1	R^2		mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)		reference
H				benzene[b)]	0.40	0.86	CH_3CN	TBAP	1
$CH(OEt)_2$		*E*		CH_2Cl_2	0.65		CH_2Cl_2		1
		Z		CH_2Cl_2	0.60		CH_2Cl_2		1

[a]Solvent for CV. [b]Solvent for ESR.

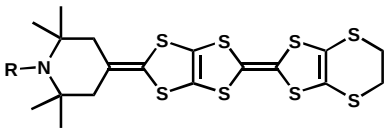
(1) S. Nkatsuji, and H. Anzai, *J. Mater. Chem.,* **7**, 2161 (1997).



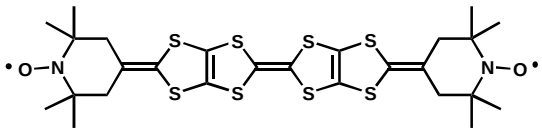
R	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)	reference
		CH_2Cl_2	0.55		CH_2Cl_2	1
						2

[a]Solvent for CV. [b]Solvent for ESR.

(1) S. Nkatsuji, and H. Anzai, *J. Mater. Chem.,* **7**, 2161 (1997).
(2) T. Jin, A. Izuoka, and T. Sugawara, *Abstracts of 76th Annual Meeting of the Chemical Society of Japan II,* 3PA139 (1996).



1

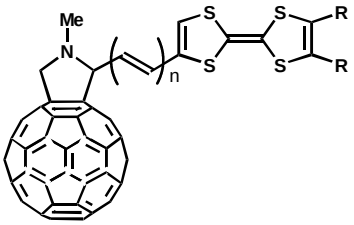


2

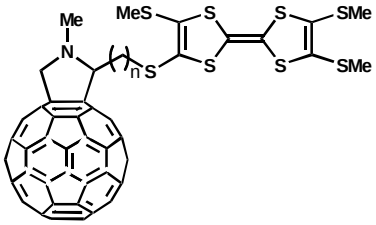
	R	mp/°C	solubility[a)]	E_1	E_2	E_3	E_4	CV (vs. Ag / AgCl)	reference
1	O·	206-207 (dec.)	benzene	0.56	0.88	1.17	1.77	PhCN	1
	H			0.55	0.87	1.74		PhCN	1
2									2

[a]Solvent for ESR.

(1) H. Fujiwara, and H. Kobayashi, *Chem. Commun.,* 2417 (1999).
(2) H. Fujiwara, and H. Kobayashi, *Abstracts of 76th Annual Meeting of the Chemical Society of Japan I,* 2E701 (1999).



1

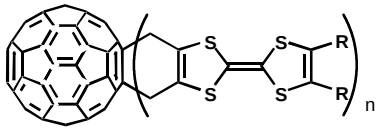


2

	R	n	mp/°C	solubility[a)]	E_1^{ox}	E_2^{ox}	E_1^{red}	E_2^{red}	E_3^{red}	E_4^{red}	(vs. SCE)		reference
1	H	0		$CHCl_3$	0.41	0.76	-0.67	-1.04	-1.53	-2.05	[b)]	0.1M TBAP	1
	$S(CH_2)_2S$	0		$CHCl_3$	0.50	0.78	-0.71	-1.05	-1.56	-2.10	[b)]	0.1M TBAP	1
	H	1		$CHCl_3$	0.43	0.76	-0.67	-1.08	-1.58	-2.19	[b)]	0.1M TBAP	1
	$S(CH_2)_2S$	1		$CHCl_3$	0.54	0.78	-0.71	-1.19	-1.61	-2.20	[b)]	0.1M TBAP	1
2		3		$CHCl_3$	0.50	0.86	-0.72	-1.11			CH_2Cl_2	0.1M TBAHP	2
		10		$CHCl_3$	0.51	0.85	-0.70	-1.08			CH_2Cl_2	0.1M TBAHP	2

[a]Solvent for ^{1}HNMR. [b]CH_3CN-toluene.

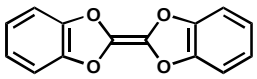
(1) N. Martín, L. Sánchez, C. Seoane, R. Andreu, J. Garín, and J. Orduna, *Tetrahedron Lett.,* **37**, 5979 (1996).
(2) K. B. Simonsen, V. V. Konovalov, T. A. Konovalova, T. Kawai, M. P. Cava, L. D. Kispert, R. M. Metzger, and J. Becher, *J. Chem. Soc., Perkin Trans. 2,* 657 (1999).



R	n	mp/°C	solubility[a)]	E_1^{ox}	E_2^{ox}	E_1^{red}	E_2^{red}	E_3^{red}	E_4^{red}	CV (vs. Ag/Ag^+)		reference
CO_2CH_3	1		CS_2-$CHCl_3$	0.21	0.69	-1.04	-1.43	-1.96		CH_2Cl_2	0.1M TBAHP	1, 2
				0.13	0.65	-1.21	-1.63	-1.99	-2.57	o-DCB	0.1M TBAHP	1
H	1		CS_2-*o*-DCB	-0.04	0.46	-1.08	-1.47	-1.98		CH_2Cl_2	0.1M TBAHP	1
				-0.08	0.43	-1.17	-1.53	-2.05	-2.49	o-DCB	0.1M TBAHP	1
CH_3	1		o-DCB	-0.1	0.41	-1.08	-1.45	-1.96		CH_2Cl_2	0.1M TBAHP	1
				-0.15	0.41	-1.18	-1.55	-2.06	-2.52	o-DCB	0.1M TBAHP	1
SCH_3	1		o-DCB	0.6	1.04	-0.76	-1.15	-1.65	-1.92	o-DCB	0.1M TBAHP	3
CO_2CH_3	2		CS_2-CH_2Cl_2	0.17	0.64	-1.16	-1.52	-1.95		CH_2Cl_2	0.1M TBAHP	1
				0.13	0.58	-1.27	-1.64	-2.02	-2.41	o-DCB	0.1M TBAHP	1
SCH_2CH_2CN	1			0.59	0.2	-1.16	-1.79	-2.32		o-DCB		4

[a]Solvent for ^{1}HNMR.

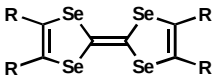
(1) J. Llacay, J. Veciana, J. V-Gancedo, J. L. Bourdelande, R. G-Moreno, and C. Rovira, *J. Org. Chem.,* **63**, 5201 (1998).
(2) J. Llacay, M. Mas, E. Molins, J. Veciana, D. Powell and C. Rovira, *Chem. Commun.,* 659 (1997).
(3) C. Boulle, J. M. Rabreau, P. Hudhomme, M. Cariou, M. Jubault, A. Gorgues, J. Orduna, and J. Garín, *Tetrahedron Lett.,* **38**, 3909 (1997).
(4) M. Taniguchi, Y. Misaki, and K. Tanaka, *Abstract of 76th Annual Meeting of the Chemical Society of Japan II,* 3PA150 (1999).

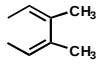
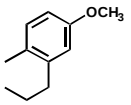
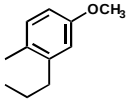


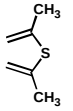
mp/°C	solubility	E_1	E_2	CV (vs. Ag / Ag^+)		reference
>145(dec.)	*o*-DCB[a]	0.584 [b]		*o*-DCB	0.1M TBAP	1

[a]Solvent for CV. [b]Irrevwesible wave.

(1) K. Tanaka, K. Kadoto, K. Yoshida, A. Kobayashi, N. Ishida, and T. Nogami, *Abstracts of Sympsiumon Molecular Structure*, 2A05 (1999).



R	mp/°C	solubility[a]	E_1	E_2	CV (vs. SCE)		reference
H	132.5-133	$CHCl_3$	0.48	0.76	CH_3CN	0.1M TBAP	1, 2, 3, 4
CH_3	>250 (dec.)	CH_2Cl_2[c]	0.167		CH_2Cl_2		5
		PhCN[c]	0.42	0.81	PhCN	TBAHA	6
		CH_2Cl_2[d]	0.43	0.73	CH_2Cl_2	0.1M TBAT	7
CD_3	150-151	$CHCl_3$[b]	0.43	0.73	CH_2Cl_2	0.1M TBAT	7
$-(CH_2)_3-$		^{n}BuCN[c]	0.18	0.45	*n*BuCN	0.1M TBAT[b]	8
		CH_2Cl_2[b]	0.55	0.94	CH_2Cl_2	0.1M TEAP	9
CH_2OH	247 (dec.)	DMSO	0.48	0.70	DMF	0.1M TBAP	10
CHO	315 (dec.)	DMSO					10
$CH=C(CH_3)_2$	124.5-126	CCl_4	0.71	0.89	THF	0.1M TBAP	10
COOH	>300 (dec.)	EtOH[d]					11
COOMe	145 (dec.)	$CHCl_3$					11
$CONH_2$							12
$-(CH=CH)_2-$	291-293	$CHCl_3$	0.78		CH_2Cl_2	0.1M TBAT	13
	>350						30
 *cis*	228-230	DMF [b]	0.495		DMF	0.1M LiCl	26
 *trans*	242-245	DMF [b]	0.49		DMF	0.1M LiCl	26
 *cis*	235-236	DMF [b]	0.48		DMF	0.1M LiCl	26
 *trans*	240-243	DMF [b]	0.465		DMF	0.1M LiCl	26
	228-230(dec.)	CH_3CN [f]					24

							28
	313-315	CCl_4 [b)]					29
CF_3	111-112	$CHCl_3$ [a)]					25
$-S(CH_2)_2S-$	220 (dec.)	CS_2					14
		PhCN [c)]	0.27	0.49	PhCN	0.1M TBAP [b)]	15, 16
$-S(CH_2)_3S-$		PhCN [c)]	0.27	0.51	PhCN	0.1M TBAP [b)]	16
SCH_3	119-119.7	$CHCl_3$	0.64	0.84	CH_3CN	0.1M TBAP	17
		CH_3CN [c)]	0.78	1.03	DCE	0.1M TBAT	18
SPh	140 (dec.)	$CHCl_3$					11
S-SEM [e)]							23
Se-SEM [e)]							23
$SeCH_3$	112-113	CCl_4	0.58	0.81	CH_3CN	0.1M TEAT	19
	115.2-116.2	CCl_4	0.62	0.86	CH_3CN	0.1M TBAT	17
SeC_2H_5	57-57	$CHCl_3$					
		CH_3CN [c)]	0.75	1.04	DCE	0.1M TBAT	18
$-Se(CH_2)_2Se-$	>260 (dec.)	CS_2	0.30	0.55	PhCN	0.1M TBAT [b)]	20
$-Se(CH_2)_3Se-$		PhCN [c)]	0.27	0.51	PhCN	0.1M TBAP [b)]	21, 16
SeC_6H_5	155 (dec.)	$CHCl_3$					11
$SiMe_3$	104-105	$CHCl_3$ [a)]					27
Cl			0.97	1.09	PhCN	0.1M TBAP [e)]	22

[a]Solvent for ^{1}HNMR. [b]Solvent for recrystallization. [c]Solvent for CV. [d]Solvent for UV.

[e]SEM = $CH_2O(CH_2)_2Si(CH_3)_3$. [f] Solvent for Mass spectrum

(1) E. M. Engler, and V. V. Patel, *J. Am. Chem. Soc* ., **13**, 7376 (1974).
(2) E. M. Engler, F. B. Kaufman, D. C. Green, C. E. Klots, and R. N. Compton, *J. Am. Chem. Soc* ., **97**, 2921 (1975).
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(16) R. Kato, S. Aonuma, Y. Okano, H. Sawa, A. Kobayashi, and H. Kobayashi, *Synth.Met* ., **55-57**, 2084 (1993).
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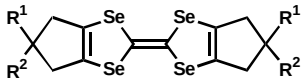

R^1	R^2	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)		reference
CH_3	H (*syn*)	181-184	hexane[b)]	0.48	0.75	CH_2Cl_2	0.1M TEAP	1
CH_3	H		*n*BuCN	0.15	0.39	*n*BuCN	0.1M TBAT[b)]	2
CH_3	CH_3		*n*BuCN	0.16	0.39	*n*BuCN	0.1M TBAT[b)]	3
$-(CH_2)_2-$			*n*BuCN	0.17	0.41	*n*BuCN	0.1M TBAT[b)]	2

[a]Solvent for CV. [b]Solvent for recrystallization.

(1) E. M. Engler, V. V. Patal, J. E. Andersen, R. R. Schumaker, and A. A. Fukushima, *J. Am. Chem. Soc.,* **100**, 3769 (1978).
(2) A. B. Bailey, R. D. McCullough, M. D. Mays, D. O. Cowan, and K. A. Lerstrup, *Synth. Met*., **27**, B 425 (1988).
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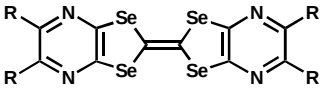

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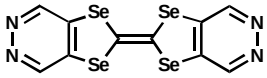

2

	R	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)	reference
1	H	>309	CH_3CN				1
		303	CH_3CN				2
	CH_3	>310	CH_3CN				1
	$-(CH=CH)_2-$						2
2		296 (dec.)					3

[a]Solvent for UV.

(1) G. C. Papavassiliou, S. Y. Yiannopoulos, J. S. Zambounis, K. Kobayashi, and K. Umemoto, *Chem. Lett*., 1279 (1987).
(2) G. C. Papavassiliou, S. Y. Yiannopoulos, and J. S. Zambounis, *Mol. Cryst. Liq. Cryst*., **120**, 333 (1985).
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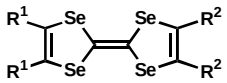

R^1	R^2	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)		reference
H	CH_3	137-138	$CHCl_3$	0.52	0.89	TCE	0.1M TBAP	8
H	$-(CH_2)_3-$	152-153	CS_2	0.525	0.880	TCE	0.1M TBAP	8

H	$-(CH_2)_4-$	130	$CHCl_3$	0.58	0.955	TCE	0.1M TBAP	1, 2
$-(CH_2)_3-$	$-(CH_2)_4-$	223	acetone	0.50	0.90	TCE	0.1M TBAP	1, 2
$-(CH_2)_4-$	CHO	251	$CHCl_3$					3
$-(CH_2)_4-$	CH_2OH	206	$CHCl_3$					3
$-(CH_2)_4-$	$CH(OCH_2CH_3)_2$	103	$CHCl_3$					3
$-(CH_2)_4-$	$-S(CH_2)_2S-$							4
CH_3	$-(CH_2)_3-$	257	CS_2	0.48	0.870	TCE	0.1M TBAP	9
CH_3	$-(CH_2)_4-$	212	benzene					1, 2
CH_3	$-S(CH_2)_2S-$		CS_2 [b)]	0.15	0.44	PhCN	0.1M TBAP[b)]	5
CH_3	$CH(OCH_2CH_3)_2$	79	$CHCl_3$	0.47	0.74	CH_3CN	0.1M TBAP	3, 6
CH_3	CHO	259	$CHCl_3$	0.7	0.97	CH_3CN	0.1M TBAP	3, 6
CH_3	CH_2OH	243	$CHCl_3$	0.42	0.71	CH_3CN	0.1M TBAP	3, 6
$-S(CH_2)_2S-$	I							7

[a]Solvent for ^{1}HNMR. [b]Solvent for chromatography.

(1) J. M. Fabre, A. K. Fouasmia, L. Giral, and D. Chasseau, *Tetrahedron Lett.,* **29**, 2185 (1988).
(2) J. M. Fabre, A. K. Gouasmia, L. Giral, and M. Galtier, *New. J. Chem.,* **12**, 119 (1988).
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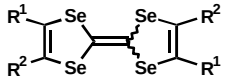

R^1	R^2	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)		reference
H	CH_3							8
H	COOH							1
H	$COOCH_3$							1
H	S-SEM [d)]							7
H	Se-SEM [d)]							7
H	Ph	189-195	CH_3CN[b)]					6
H	Cl			0.75	0.98	PhCN	0.1M TBAP [c)]	4
H	Br			0.73	0.96	PhCN	0.1M TBAP [c)]	4
H	I			0.69	0.94	PhCN	0.1M TBAP [c)]	4
CHO	$CH(OC_2H_5)_2$ (*E*)	173-176	$CHCl_3$					2
	$CH(OC_2H_5)_2$ (*Z*)	153-157	$CHCl_3$					2
CH_3	CH_2CH_3							8
SCH_3	CH_2CH_2OH	110-112	$CHCl_3$					3
SCH_3	CH_2CH_2OTs	155 (dec.)	$CHCl_3$					3
$SeCH_3$	CH_2CH_2OTHP	oil	$CHCl_3$					3
$SeCH_3$	SCH_2CH_2OTHP							5

$SeCH_3$	SCH_2CH_2OH	5
$SeCH_3$	SCH_2CH_2OTs	5
TMS[e)]	Cl	4
TMS[e)]	Br	4
TMS[e)]	I	4

[a]Solvent for ^{1}HNMR. [b]Solvent for UV. [c]V vs. Ag /AgCl. [d]SEM = $CH_2O(CH_2)_2Si(CH_3)_3$. [e]TMS = $Si(CH_3)_3$.

(1) J. E. Rice, P. Wojciechowski, and Y. Okamoto, *Heterocycles* , **18**, 191 (1982).
(2) M. Sallé, A. Gorgues, J. M. Fabre, K. Bechgaard, M. Jubault, and F. Texier, *J. Chem. Soc., Chem. Commun* ., 1520 (1989).
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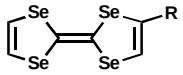
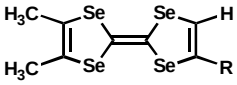


R	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)	reference
$C(O)CH_3$	147-149	CS_2-cyclohexane				1
$C(O)C_3H_7$	115-118	CS_2-hexane				1
$C(O)C_{13}H_{27}$	wax					1
$C(O)C_{15}H_{31}$	83-85	MeOH-CH_2Cl_2				1
S-SEM [b)]						2
Se-SEM [b)]						2

[a]Solvent for recrystallization (1:1, v/v). [b]SEM = $CH_2O(CH_2)_2Si(CH_3)_3$

(1) G. Cooke, M. R. Bryce, M. C. Petty, D. J. Ando, and M. B. Hursthouse, *Synthesis* , 465 (1993).
(2) J. S. Zambounis, and C. W. Mayer, *Tetrahedron. Lett* ., **32**, 2741 (1991)



R	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)		reference
CH_3							2
CHO	199	$CHCl_3$	0.65	0.96	CH_3CN	0.1M TBAP	1, 3
CH_2OH	203	$CHCl_3$	0.45	0.72	CH_3CN	0.1M TBAP	1, 3
$CH(OCH_2CH_3)_2$	41	$CHCl_3$	0.47	0.74	CH_3CN	0.1M TBAP	1, 3

[a]Solvent for ^{1}HNMR.

(1) J. M. Fabre, S. Chakroune, L. Giral, A. Gorgues, and M. Sallé, *Synth. Met.,* **55-57**, 2073 (1993).
(2) I. Johannsen, K. Bechgaard, C. S. Jacobsen, G. Rindorf, N. Thorup, K. Mortensen, and D. Mally, *Mol. Cyrst. Liq. Cryst.,* **119**, 277 (1985).
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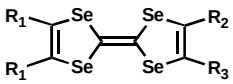
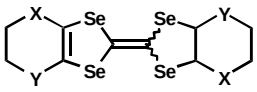


R^1	R^2	R^3	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)	reference
S-SEM [a)]	S-SEM [a)]	H						1
Se-SEM [a)]	Se-SEM [a)]	H						1

[a]SEM = $CH_2O(CH_2)_2Si(CH_3)_3$

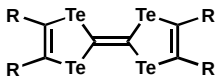
(1) J. S. Zambounis, and C. W. Mayer, *Tetrahedron. Lett*., **32**, 2741 (1991)



X	Y	mp/°C	solubility	E_1	E_2	CV (vs. SCE)		reference
Se	S			0.67	0.95	CH_3CN	0.1M TBAHP [a)]	1, 3
Se	CH_2							2
S	CH_2							2

[a] V vs. Ag/ AgCl

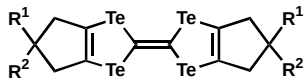
(1) M. Kawashima, T. Jigami, K. Takimiya, Y. Aso, and T. Otsubo, *Abstracts of 76th Annual Meeting of the Chemical Society of Japan I*, 1 E7 26 (1999).
(2) M. Kodani, T. Jigami, K. Takimiya, Y. Aso, and T. Otsubo, *Abstracts of 76th Annual Meeting of the Chemical Society of Japan I*, 1 E7 27 (1999).
(3) T. Jigami, M. Kawshima, K. Takimiya, Y. Aso, T. Otsubo, *Synth. Met*., **102**, 1619 (1999).



R	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)		reference
H		CS_2-benzene	0.59	0.84	CH_2Cl_2	0.2M TBAT	1, 2
-$(CH_2)_3$-		CS_2, TCE[c)]	0.40	0.69	PhCN	TBAA	3
		*n*BuCN[d)]	0.12	0.34	*n*BuCN	0.1M TBAT[b)]	5, 6
-$(CH{=}CH)_2$-		TCE[b)]	0.71	1.05	CH_2Cl_2	0.2M TBAT	4
		*n*BuCN[d)]	0.29	0.72	*n*BuCN	0.1M TBAT[b)]	5, 6

[a]Solvent for ^{1}HNMR. [b]Solvent for recrystallization. [c]Solvent for UV. [d]Solvent for CV.

(1) R. D. McCullough, G. B. Kok, K. A. Lerstrup, and D. O. Cowan, *J. Am. Chem. Soc*., **109**, 4115 (1987).
(2) R. D. McCullough, M. D. Mays, A. B. Bailey, and D. O. Cowan, *Synth. Met*., **27**, B487 (1988).
(3) F. Wudl, and E. Aharon-Shalom, *J. Am. Chem. Soc*., **104**, 1154 (1982).
(4) K. Lerstrup, D. Talham, A. Bloch, T. Poehler, D. Cowan, *J. Chem. Soc., Chem. Commun*., 336 (1982).
(5) A. B. Bailey, R. D. McCullough, M. D. Mays, and D. O. Cowan, *Synth. Met.*, **27**, B425 (1988).
(6) K. Lerstrup, A. Bailey, R. McCllough, M. Mays, D. Cowan, an T. Kistenmacher, *Synth. Met.*, **19**, 647 (1987).



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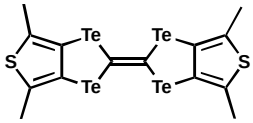
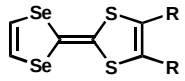


2

	R^1	R^2	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)		reference
1	CH_3	H		*n*BuCN	0.08	0.34	*n*BuCN	0.1M TBAT[b)]	1, 2
	CH_3	CH_3		*n*BuCN	0.10	0.31	*n*BuCN	0.1M TBAT[b)]	1, 2
	$-(CH_2)_2-$			*n*BuCN	0.11	0.34	*n*BuCN	0.1M TBAT[b)]	1, 2
2			295-298 (dec.)	TCE[b)]	0.78	1.20	CH_2Cl_2	TBAT	3
				*n*BuCN	0.40	0.80	*n*BuCN	0.1M TBAT[b)]	2

[a]Solvent for CV. [b]Solvent for recrystallization.

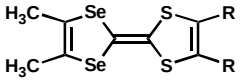
(1) A. Bailey, R. McCullough, M. Mays, and D. Cowan, *Synth. Met.,* **27**, B425 (1988).
(2) K. Lerstrup, A. Bailey, R. McCllough, M. Mays, D. Cowan, an T. Kistenmacher, *Synth. Met.,* **19**, 647 (1987).
(3) K. Lerstrup, D. O. Cowan, and T. J. Kistenmacher, *J. Am. Chem. Soc.,* **106**, 8303 (1984).



R (2R)	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)	reference
SCH_3						1
$-O(CH_2)_2O-$	90	CH_3CN				2
$-SCH_2S-$	158					1
$-S(CH_2)_2S-$	207					1
$-Se(CH_2)_2Se-$	210	CH_3CN				2
-SCH=CHS-						1
$-S(CH_2)_3S-$						1
						1
						1

[a]Solvent for UV.

(1) G. C. Papavassiliou, G. A. Mousdis, S. Y. Yiannopoulos, V. C. Kakoussis, and J. S. Zambounis, *Synth. Met*., **27**, B373 (1988).
(2) G. C. Papavassiliou, V. C. Kakousssis, D. J. Lagouvardos, and G. A. Mousdis, *Mol. Cryst. Liq.Cryst*., **181**, 171 (1990).

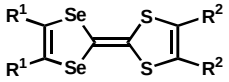


R	mp/°C	solubility	E_1	E_2	CV (vs. SCE)		reference
CH_3							1, 2
$-(CH_2)_4-$							2
$-SCH_2S-$	176-177	CH_3CN[c)]					3
$-S(CH_2)_2S-$	198	CH_3CN[c)]	0.52	0.78	CH_3CN	0.1M TBAP	4

-S(CH_2)$_3$S-	232	CH_3CN[c)]	0.48	0.75	CH_3CN	0.1M TBAP	4
-SCH=CHS-	208 (dec.)	$CHCl_3$-CS_2	0.59	0.91	CH_3CN	0.1M TBAP	5
-O(CH_2)$_2$O-	240	$CHCl_3$	0.42	0.7	CH_3CN	0.1M TBAP	6
$SCH_2O(CH_2)_2Si(CH_3)_3$							3
SCH_2CH_2CN	124-125	CH_2Cl_2	0.59	0.96	CH_2Cl_2	0.1M TBAHP	10
$SeCH_2CH_2CN$	124-125	$CHCl_3$ [a)]	d)		CH_2Cl_2	0.1M TBAHP	7, 9
-Se(CH_2)$_2$Se-	210 (dec.)	CH_2Cl_2-hexane[b)]	d)		CH_2Cl_2	0.1M TBAHP	7, 9
I							8

[a]Solvent for ^{1}HNMR. [b]Solvent for recrystallization. [c]Solvent for UV. [d]0.44V < E1 < 0.59V and 0.78V < E2 < 0.92V

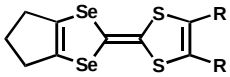
(1) P. Auban, D. Jérôme, K. A. Lerstrup, I. Johannsen, M. Jørgensen, and K. Bechgaard, *J. Phys. France* ., **50**, 2727 (1989).
(2) J. M. Fabre, J. Amouroux, L. Giral, and D. Chasseau, *Synth. Met* ., **41-43**, 2049 (1991).
(3) J. S. Zambounis, and C. W. Mayer, *Teterahedron Lett* ., **32**, 2737 (1991).
(4) K. Kikuchi, T. Namiki, I. Ikemoto, and K. Kobayashi, *J. Chem. Soc., Chem. Commun* ., 1472 (1986).
(5) J. Yamada, S. Satoki, H. Anzai, K. Hagiya, M. Tamura, Y. Nishino, K. Kajita, E. Watanabe, M. Konno, T. Sato, H. Nishikawa, K, Kikuchi, *Chem. Commun* ., 1955 (1996).
(6) J. M. Fabre, D. Serhani, K. Saoud, S. Chakroune, and M. Hoch, *Synth. Met.*, **60**, 295 (1993).
(7) L. Binet, J. M. Fabre, and J. Becher, *Synthesis* , 26 (1997).
(8) T. Maruyama, T. Imakubo, and K. Kobayashi, *Abstract of 72th Annual Meeting of the Chemical Society of Japan II,* 4H4 (1997).
(9) J. Legros, F. Dahan, L. Binet, J. Fabre, *Synth. Met* ., **102**, 1632 (1999).
(10) L. Binet, J. M. Fabre, C. Montginoul, K.B. Simonsen and J. Becher, *J. Chem. Soc., Perkin Trans. 1* , 783 (1996).



R^1	R^2	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)	reference
CHO	H	203	$CHCl_3$ [a)]				1
CHO	$CH(OC_2H_5)_2$	149	$CHCl_3$ [a)]				1
CHO	-O(CH_2)$_2$O-	149	$CHCl_3$ [a)]				1
CH_2OH	H	172	$CHCl_3$ [a)]				1
CH_2OH	-O(CH_2)$_2$O-	150	$CHCl_3$ [a)]				1
CH_2OH	$CH(OC_2H_5)_2$	150	$CHCl_3$ [a)]				1
CO_2Me	-O(CH_2)$_2$O-						2
$CH(OC_2H_5)_2$	H		$CHCl_3$ [a)]				1
$CH(OC_2H_5)_2$	-O(CH_2)$_2$O-		$CHCl_3$ [a)]				1
$CH(OC_2H_5)_2$	$CH(OC_2H_5)_2$		$CHCl_3$ [a)]				1
-CH_2SCH_2-	-S(CH_2)$_2$S-						3
-Se(CH_2)$_2$Se-	H	210	CH_3CN[b)]				2
-Se(CH_2)$_2$Se-	CO_2Me						2
-Se(CH_2)$_2$Se-	-O(CH_2)$_2$O-	183	CH_3CN[b)]				4

[a]Solvent for ^{1}HNMR. [b]Solvent for UV.

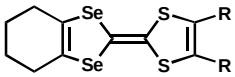
(1) J. M. Fabre, S. Chakroune, L. Giral, A. Gorgues, and M. Sallé, *Synth. Met.*, **55-57**, 2073 (1993).
(2) G. C. Papavassiliou, V. C. Kakousssis, D. J. Lagouvardos, and G. A. Mousdis, *Mol. Cryst. Liq.Cryst* ., **181**, 171 (1990).
(3) M. Iso, Y. Okano, J. Yamaura, and R. Kato, *Abstracts of 76th Annual Meeting of the Chemical Society of Japan I,* 1 E7 15 (1999).
(4) G. C. Papavassiliou, *Synth. Met.*, **41-43**, 2535 (1991).



R	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)		reference
-S(CH_2)$_2$S-	214	CH_3CN[b)]	0.48	0.73	CH_3CN	0.1M TBAP	1
-SCH=CHS-	222 (dec.)	$CHCl_3$-CS_2	0.6	0.91	CH_3CN	0.1M TBAP	2
-S(CH_2)$_3$S-	234	CH_3CN[b)]	0.44	0.74	CH_3CN	0.1M TBAP	1

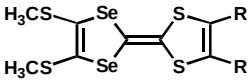
[a]Solvent for ^{1}HNMR. [b]Solvent for UV.

(1) K. Kikuchi, T. Namiki, I. Ikemoto, and K. Kobayashi, *J. Chem. Soc., Chem. Commun* ., 1472 (1986).
(2) J. Yamada, S. Tatoki, H. Anzai, K. Hagiya, M. Tamura, Y. Nishino, K. Kajita, E. Watanabe, M. Konno, T. Sato, H. Nishikawa, K, Kikuchi, *Chem. Commun* ., 1955 (1996).



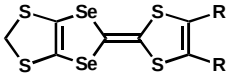
R	mp/°C	solubility	E_1	E_2	CV (vs. SCE)	reference
CH_3						1
-(CH_2)$_4$-						1
-S(CH_2)$_2$S-						2, 4
-O(CH_2)$_2$O-						2
-Se(CH_2)$_2$Se-						3

(1) J. M. Fabre, J. Amouroux, L. Giral, and D. Chasseau, *Synth. Met* ., **41-43**, 2049 (1991).
(2) H. Isomitsu, K. Kamoshida, H. Sanaga, T. Kondoh, and G. Saito, *Abstract of 74th Annual Meeting of the Chemical Society of Japan I,* 4J314 (1998) .
(3) M. Iso, Y. Okano, J. Yamaura, and R. Kato, *Abstracts of 76th Annual Meeting of the Chemical Society of Japan I,* 1 E7 15 (1999).
(4) Y. Okano, M. Iso, Y. Kawashima, J. Yamaura, and R. Kato, *Synth. Met.* , **102**, 1703 (1999).



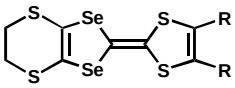
R	mp/°C	solubility	E_1	E_2	CV (vs. SCE)	reference
H						1

(1) G. C. Papavassiliou, G. A. Mousdis, S. Y. Yiannopoulos, V. C. Kakoussis, and J. S. Zambounis, *Synth. Met* ., **27**, B373 (1988).



R	mp/°C	solubility	E_1	E_2	CV (vs. SCE)	reference
H						1

(1) G. C. Papavassiliou, G. A. Mousdis, S. Y. Yiannopoulos, V. C. Kakoussis, and J. S. Zambounis, *Synth. Met*., **27**, B373 (1988).



R	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)		reference
H							1
CH_3							2
$-(CH_2)_4-$							7
$-O(CH_2)_2O-$	195 (dec.)	$CHCl_3$	0.13	0.44	PhCN	0.1M TBAT[b)]	3
	186	CH_3CN[c)]					8
$-SCH_2S-$		CS_2	0.18	0.41	PhCN	0.1M TBAP [b)]	4
$-S(CH_2)_2S-$		PhCN[b)]	0.30	0.55	PhCN	0.1M TBAT[b)]	1, 3
$-Se(CH_2)_2Se-$		CS_2[c)]					6
$Se(CH_2)_2CN$		CS_2-CH_2Cl_2[c)]					6
$-SCH_2OCH_2S-$							1
-SCH=CHS-	231 (dec.)	$CHCl_3$-CS_2					5

[a]Solvent for ^{1}HNMR. [b]Solvent for CV. [c]Solvent for UV.

(1) A. Kobayashi, R. Kato, T. Naito, and H. Kobayashi, *Synth. Met.*, **55-57**, 2078 (1993).
(2) K. Yoshino, T. Yamazaki, H. Saito, K. Saito, K. Kikuchi, and I. Ikemoto, *Abstracts of Symposium on Molecular Structure*, 2C12 (1993).
(3) T. Imakubo, Y. Okano, H. Sawa, and R. Kato, *J. Chem. Soc., Chem. Commun*., 2493 (1995).
(4) S. Aonuma, Y. Okano, H. Sawa, R. Kato, H. Kobayashi, *J. Chem. Soc. Chem. Commun*., 1193 (1192).
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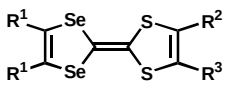
(7) N. Sakurai, H. Mori, S. Tanaka, H. Moriyama, *Synth. Met*., **102**, 1682 (1999)
(8) G. C. Papavassiliou, *Synth. Met.*, **41-43**, 2535 (1991).



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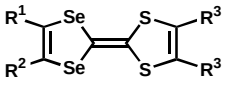
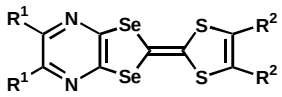


2

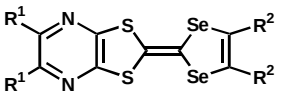
	R1	R2	R3	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)	reference
1	CH_3	SCH_2Br	S-SEM						1
	$-Se(CH_2)_2Se$	H	$COOCH_3$						2
2	H	$COOCH_3$	$-O(CH_2)_2O-$						2

[a]SEM = $CH_2O(CH_2)_2Si(CH_3)_3$

(1) J. S. Zambounis, and C. W. Mayer, *Teterahedron Lett*., **32**, 2737 (1991).
(2) G. C. Papavassiliou, V. C. Kakousssis, D. J. Lagouvardos, and G. A. Mousdis, *Mol. Cryst. Liq. Cryst*.,**181**, 171 (1990).



1



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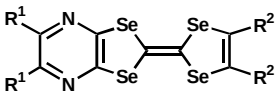
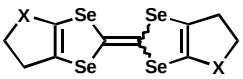


3

	R^1	R^2	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)		reference
1	H	H	174	CH_3CN					1
	H	CH_3	180	CH_3CN					1
	H	CO_2Me							1
	H	$-O(CH_2)_2O-$	210	CH_3CN					2
	H	$-SCH_2S-$	218	CH_3CN	0.69	0.96	CH_3CN	0.1M TEAP	1, 3
	H	$-S(CH_2)_2S-$	229	CH_3CN	0.74	1.03	CH_3CN	0.1M TEAP	1, 3
	H	I	>250	$CHCl_3$[b)]					4
	CH_3	$-SCH_2S-$	218	CH_3CN	0.66	0.92	CH_3CN	0.1M TEAP	1, 3
	CH_3	$-S(CH_2)_2S-$	238	CH_3CN	0.59	0.99	CH_3CN	0.1M TEAP	1, 3
2	H	CH_3	282	CH_3CN	0.69	1.02	CH_3CN	0.1M TEAP	1, 3
	CH_3	CH_3	302	CH_3CN	0.63	0.93	CH_3CN	0.1M TEAP	1, 3
	H	$-(CH_2)_3-$	220	CH_3CN					1
	H	$-S(CH_2)_2S-$	229	CH_3CN	0.85	1.18	PhCN		5
3	H	CH_3	258	CH_3CN					1

[a]Solvent for UV. [b]Solvent for ^{1}HNMR. [c]Solvent for chromatography.

(1) G. C. Papavassiliou, V. Gionis, S. Y. Yiannopoulos, J. S. Zambounis, G. A. Mousdis, K. Kobayashi, and K. Umemoto, *Mol. Cryst. Liq. Cryst*., **156**, 277 (1988).
(2) G. C. Papavassiliou, V. C. Kakousssis, D. J. Lagouvardos, and G. A. Mousdis, *Mol. Cryst. Liq. Cryst*.,**181**, 171 (1990).
(3) G. C. Papavassiliou, S. Y. Yiannopoulos, J. S. Zambounis, K. Kobayashi, and K. Umemoto, *Chem. Lett*., 1279 (1987).
(4) T. Imakubo, T. Maruyama, H. Sawa, and K. Kobayashi, *Chem. Commun*., 2021 (1998).
(5) E. Ojima, H. Fujiwara, and H. Kobayashi, *Abstracts of Symposium on Molecular Structure*, 1P64 (1998).



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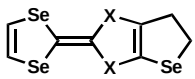


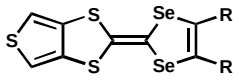
2

	X	mp/°C	solubility[a)]	E_1	E_2	CV (vs. Ag / AgCl)		reference
1	Se	205-207	$CHCl_3$-CS_2	0.47	0.74	PhCN	0.1M TBAP	1
2	S			0.39	0.78	PhCN	TBAP	2
	Se			0.47	0.78	PhCN	TBAP	2

[a]Solvent for ^{1}HNMR.

[a]Solvent for ^{1}HNMR. [b]Solvent for CV.

(1) T. Jigami, K. Takimiya, and T. Otsubo, *J. Org. Chem*., **63**, 8873 (1998).
(2) S. Murakami, T. Jigami, K. Takimiya, Y. Aso, and T. Otsubo, *Abstracts of Symposium on Molecular Structure*, 1P63 (1998).



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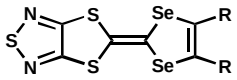

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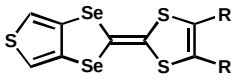
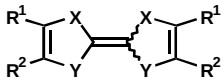


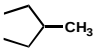
3

	R	mp/°C	solubility[a)]	E_1	E_2	E_3	CV (vs. SCE)		reference
1	CH_3		CH_3CN[b)]	0.79	1.16	1.61	CH_3CN	0.1M TBAP	1
	-$(CH_2)_3$-		CH_3CN[b)]	0.54	1.01		CH_3CN	0.1M TBAP	1
	-$S(CH_2)_2S$-		CH_3CN[b)]	0.67	1.08	1.48	CH_3CN	0.1M TBAP	1
2	CH_3	224-225	EtOH-$CHCl_3$	0.86	1.17	1.46	CH_3CN	0.1M TBAP	1, 2
	-$(CH_2)_3$-	220 (dec.)	EtOH-$CHCl_3$	0.84	1.17	1.37	CH_3CN	0.1M TBAP	1, 2
	-$S(CH_2)_2S$-								3
3	CH_3		CH_3CN[b)]	0.50	0.95[c)]	1.69[c)]	CH_3CN	0.1M TBAP	1
	-$S(CH_2)_2S$-		CH_3CN[b)]	0.65	1.03[c)]	1.46[c)]	CH_3CN	0.1M TBAP	1

[a]Solvent for recrystallization. [b]Solvent for CV. [c]Irreversible oxidation wave.

(1) J. Yamada, *Recent Res. Devel. In Organic Chem.*, **2**, 525 (1998).
(2) J. Yamada, S. Satoki, S. Mishima, N. Akashi, K. Takahashi, N. Masuda, Y. Nishimoto, S. Takasaki, and H. Anzai, *J. Org. Chem.*, **61**, 3987 (1996).
(3) T. Naito, K. Kawano, H. Kobayashi, and A. Kobayashi, *Abstracts of Symposium on Molecular Structure,* 4E08 (1994).



R^1	R^2	X	Y	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)		reference
H	H	S	Se	118	cyclohexaen[b)]	0.4	0.72	CH_3CN	0.1M TBAP	1, 2, 3
H	CO_2H	S	Se							13
H	CO_2Me	S	Se	254-255	benzene-MeOH					13
CO_2H	CO_2H	S	Se	>280						2
CO_2Me	CO_2Me	S	Se	138						2
$CONH_2$	$CONH_2$	S	Se							13
CH_3	H	S	Se	123-125	hexane[b)]					4
Ph	H	S	Se	202-208	CH_3CN					12
-$(CH_2)_3$-		S	Se	244 (dec.)	CH_2Cl_2[b)]					5
		S	Se	160-163	hexane	0.39	0.70	CH_3CN	0.1M TEAP	10
-$(CH_2)_4$-		S	Se			0.28	0.63	CH_3CN		11
-$(CH=CH)_2$-		S	Se	247-248	CH_3CN[b)]					5
-$O(CH_2)_2O$-		S	Se	29.9-30.7	$CHCl_3$	0.01	0.3	PhCN	0.01M TBAT[d)]	6
CH_3	CH_3	S	Se		$CHCl_3$	0.33	0.68	CH_3CN	0.1M TBAT	7
-$S(CH_2)_2S$-	-$S(CH_2)_2S$-	S	Se							8
H	H	Se	Te	139-140	$CHCl_3$	0.43	0.73		[c)]	9
CH_3	H	Se	Te	39.0-39.7	$CHCl_3$	0.41	0.71		[c)]	9

[a]Solvent for ^{1}HNMR. [b]Solvent for UV. [c]V vs. Ag / AgCl. [d]V vs. Ag / AgNO3.

(1) E. M. Engler, F. B. Kaufman, D. C. Green, C. E. Klots, and R. N. Compton, *J. Am. Chem. Soc*., **97**, 2921 (1975).
(2) M. V. Lakshmikantham, M. P. Cava, and A. F. Garito, *J. Chem. Soc., Chem. Commun*., 383 (1975).
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(4) E. M. Engler, and V. V. Patel, *Tetrahedron Lett.*, 423 (1976).
(5) H. K. Spencer, M. V. Lakshmikantham, M. P. Cava, and A. F. Garto, *J. Chem. Soc., Chem. Commun*., 867 (1975).
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(9) K. Takimiya, A. Morikami, Y. Aso, and T. Otsubo, *Chem. Commun*., 1925 (1997).
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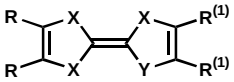
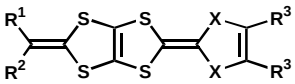
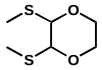
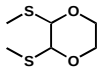


X	Y	R	(R^1)	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)	reference
S	Se	-$S(CH_2)_2S$-							1
S	Se	-$S(CH_2)_2S$-	(H)						1
S	Se	-$O(CH_2)_2O$-	(-$S(CH_2)_2S$-)	196	CS_2 [d)]				5
S	Se	S-SEM[e)]	(-$S(CH_2)_2S$-)	196	CS_2 [d)]				1
Se	S	CO_2Me		140-141	benzene-MeOH				2
Se	S	CF_3		103.5-104	hexane				2
Se	S	CH_3 [c)]		253-254 (dec.)	iso-octane				2
Se	S		(-$S(CH_2)_2S$-)	233	CH_2Cl_2 [d)]				5
S	O	-$(CH=CH)_2$-		154.7-156.9	$CHCl_3$[b)]	0.72	1.12	CH_2Cl_2 0.2M TBAT	3
Se	Te								4

[a]Solvent for recrystallization. [b]Solvent for ^{1}HNMR. [c]Mixture with TMTSF. [d]Solvent for chromatography.
[e]SEM=$CH_2O(CH_2)_2SiMe_3$

(1) G. C. Papavassiliou, D. J. Lagouvardos, A. Terzis, A. Hountas, B. Hilti, J. S. Zambounis, C. W. Mayer, J. Pfeiffer, W. Hofherr, P. Delhaes, and J. Amiell, *Synth. Met.,* **55-57**, 2174 (1993).
(2) E. M. Engler, and V. V. Patel, *J. Chem. Soc., Chem. Commun*., 835 (1977).
(3) S. T. D'Arcangelis. and D. O. Cawan, Tetrahedron. Lett., **37**, 2931 (1996).
(4) A. Morikami, K. Takimiya, Y. Aso, and T. Otsubo, *Abstracts of 76th Annual Meeting of Chemical Society of Japan I,* 2PA016 (1999).
(5) D. J. Lagouvardos, and G. C. Papavassiliou, *Z. Naturforschf. B,* **47**, 898 (1992).



R^1	R^2	R^3	X	mp/°C	solubility[a]	E_1	E_2	E_3	CV	(vs. SCE)	reference
CH_3	CH_3	H	S	167 (dec.)	$CHCl_3$-CS_2	0.45	0.76	1.41	PhCN	0.1M TBAP	1
CH_3	CH_3	CO_2Me	S	212 (dec.)	$CHCl_3$-CS_2	0.62	0.91	1.51	PhCN	0.1M TBAP	1
CH_3	CH_3	CH_3	S			0.43	0.75	1.37	PhCN	0.1M TBAP	3
CH_3	CH_3	SCH_3	S	164-166 (dec.)	$CHCl_3$-CS_2	0.50	0.75	1.39	PhCN	0.1M TBAP	1
CH_3	CH_3	-SCH_2S-	S	195 (dec.)	$CHCl_3$-CS_2	0.51	0.83		PhCN	0.1M TBAP	1
CH_3	CH_3	-$S(CH_2)_2$S-	S	201 (dec.)	$CHCl_3$-CS_2	0.51	0.79	1.39	PhCN	0.1M TBAP	1
CH_3	CH_3	-$S(CH_2)_3$S-	S	200-202 (dec.)	$CHCl_3$-CS_2	0.50	0.78	1.45	PhCN	0.1M TBAP	1
CH_3	CH_3	-$(CH{=}CH_2)_2$	S	214 (dec.)	$CHCl_3$-CS_2						4
CH_3	CH_3		S		PhCN-CS_2[c]	0.68	0.91	1.35	[d]	0.1M TBAP	7
CH_3	C_2H_5	-$S(CH_2)_2$S-	S								2
C_2H_5	C_2H_5	-$S(CH_2)_2$S-	S								2
-$(CH_2)_4$-		H	S	161-162 (dec.)	$CHCl_3$-CS_2	0.43	0.74	1.43	PhCN	0.1M TBAP	5
-$(CH_2)_4$-		CO_2Me	S	214.5 (dec.)	$CHCl_3$-CS_2	0.60	0.89	1.47	PhCN	0.1M TBAP	5
-$(CH_2)_4$-		SCH_3	S	172-173 (dec.)	acetone-CS_2	0.50	0.75	1.37	PhCN	0.1M TBAP	5
-$(CH_2)_4$-		-SCH_2S-	S	215-215.5 (dec.	$CHCl_3$-CS_2	0.51	0.74	1.37	PhCN	0.1M TBAP	5
-$(CH_2)_4$-		-$S(CH_2)_2$S-	S	213-214 (dec.)	acetone-CS_2	0.51	0.77	1.38	PhCN	0.1M TBAP	5
-$(CH_2)_4$-		-$(CH{=}CH_2)_2$	S	210 (dec.)	$CHCl_3$-CS_2						4
-$(CH_2)_4$-			S		PhCN-CS_2[c]	0.67	0.91	1.34	[d]	0.1M TBAP	7
CH_3	CH_3	CH_3	Se		CS_2	0.07	0.36	1.00	PhCN	0.1M TBAP [b]	6
CH_3	CH_3	-$S(CH_2)_2$S-	Se		CS_2	0.17	0.41	0.95	PhCN	0.1M TBAP [b]	6

[a]Solvent for ^{1}H-NMR. [b]V vs. Ag / AgCl. [c]Solvent for CV. [d]PhCN-CS_2, 1:1

(1) Y. Misaki, H. Nishikawa, H. Fujiwara, K. Kawakami, T. Yamabe, H. Yamochi, and G. Saito, *J. Chem. Soc., Chem. Commun*., 1408 (1992).
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(5) Y. Misaki, K. Kawakami, H. Nishikawa, H. Fujiwara, T. Yamabe, and M. Shiro, *Chem. Lett*. 445 (1993).
(6) S. Aonuma, Y. Okano, H. Sawa, R. Kato, and H. Kobayashi, *J. Chem. Soc., Chem. Commun*., 1193 (1992).
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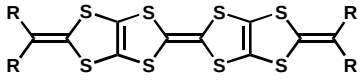
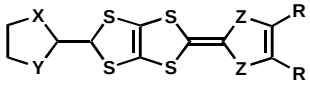


R (2R)	mp/°C	solubility[a]	E_1	E_2	E_3	CV	(vs. SCE)	reference
CH_3	222.5-223 (dec.)	acetone-CS_2						1
C_2H_5	195-196.5	CH_2Cl_2[b]	0.52	0.73	1.27	PhCN	0.1M TBAP	1

C_3H_7	167-168	CH_2Cl_2 [b)]	0.51	0.73	1.31	PhCN	0.1M TBAP		1
$-(CH_2)_4-$	200-200.5 (dec.)								1

[a]Solvent for ^{1}H-NMR. [b]Solvent for UV.

(1) Y. Misaki, H. Nishikawa, K. Kawakami, T. Uehara, and T. Yamabe, *Tetrahedron Lett*., **33**, 4321 (1992).



X	Y	R	Z	mp/°C	solubility[a)]	E_1	E_2	E_3	E_4	CV	(vs. SCE)	reference
O	O	H	S	113-114	$CHCl_3$	0.53	0.92			PhCN	0.1M TBAP	1
O	O	$-S(CH_2)_2S-$	S	175 (dec.)	$CHCl_3$	0.57	0.84	1.58		PhCN	0.1M TBAP	1
O	O	CH_3	Se	198 (dec.)	$CHCl_3$	0.53	0.83	1.58		PhCN	0.1M TBAP	1
O	O	$-SCH_2S-$	S	180 (dec.)	$CHCl_3$-CS_2	0.53	0.76	1.38	1.56	PhCN	0.1M TBAP	2
O	O	-SCH=CHS-	S			0.65	0.90	1.60	1.74 [b)]	PhCN	0.1M TBAP	3
O	O	COOMe	S									4
S	S	$-S(CH_2)_2S-$	S	168 (dec.)	$CHCl_3$-CS_2	0.55	0.83	1.63		PhCN	0.1M TBAP	2
S	S	$-SCH_2S-$	S	184 (dec.)	$CHCl_3$-CS_2	0.55	0.77	1.57		PhCN	0.1M TBAP	2
S	S	-SCH=CHS-				0.65	0.88	1.70 [b)]		PhCN	0.1M TBAP	3
S	S	H	S	137 (dec.)	$CHCl_3$-CS_2	0.48	0.80	1.67		PhCN	0.1M TBAP	2
S	S	COOMe	S									2
O	S	$-S(CH_2)_2S-$	S	153 (dec.)	$CHCl_3$-CS_2	0.55	0.83	1.64		PhCN	0.1M TBAP	2

[a]Solvent for ^{1}H-NMR. [b] Irreversible wave.

(1) J. Yamada, M. Hamasaki, O. Jinih, S. Tanaka, K. Hagiya, and H. Anzai, *Tetrahedron Lett*., **38**, 3439 (1997).
(2) J. Yamada, R. Oka, H. Anzai, H. Nishikawa, I. Ikemoto, and K. Kikuchi, *Tetrahedron Lett*., **39**, 7709 (1998).
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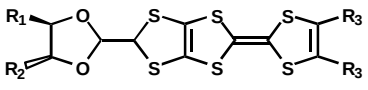
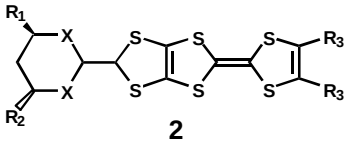
(4) J. Yamada, R. Oka, H. Anzai, H. Nishikawa, I. Ikemoto, K. Kikuchi, *Synth. Met.*, **102**, 1701 (1999).



1

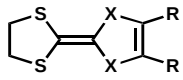


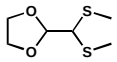
2

	X	R_1	R_2	R_3	mp/°C	solubility	E_1	E_2	E_3	E_4	CV	(vs. SCE)	reference
1		CH_3	CH_3	$-S(CH_2)_2S-$									1
1		CH_3	CH_3	$-SCH_2S-$									1
1		CH_3	H	$-S(CH_2)_2S-$									1
2	O	H	H	$-S(CH_2)_2S-$									2
	O	H	H	$-SCH_2S-$									2

S	H	H	$-S(CH_2)_2S-$	2
S	H	H	$-SCH_2S-$	2
O	CH_3	CH_3	$-S(CH_2)_2S-$	2

(1) R. Oka, T. Hnajiri, J. Yamada, S. Nakatsuji, H. Nishikawa, I. Ikemoto, and K. Kikuchi, *Abstracts of 76th Annual Meeting of the Chemical Society of Japan II*, 4 C5 13 (1999).
(2) T. Mangetsu, J. Yamada, S. Nakatsuji, H. Nishikawa, I. Ikemoto, and K. Kikuchi, *Abstracts of 76th Annual Meeting of the Chemical Society of Japan II*, 4 C5 14 (1999).



R	X	mp/°C	solubility[a)]	E_1	E_2	E_2	CV (vs. SCE)		reference
H	S	115	$CHCl_3$	0.41	0.89		CH_3CN	0.1M TEAP	1, 2, 3
$-SCH_2S-$	S	129 (dec.)	$CHCl_3$	0.60	1.00	1.14	CH_3CN	0.1M TBAP	4, 6, 7
$-S(CH_2)_2S-$	S	223.5	$CHCl_3$	0.63	1.02		CH_3CN	0.1M TBAP	4, 6, 7
$-Se(CH_2)_2Se$	S			0.57	0.91		PhCN	0.1M TBAP	8
-SCH=CHS-	S	184	$CHCl_3$-EtOH[b)]	0.69	1.05		CH_3CN	0.1M TBAP	4, 6, 7
	S	105.5-106	CH_2Cl_2[b)]	0.75	1.17		CH_3CN	0.1M TBAP	4, 6, 7
$-(CH=CH_2)_2$	S	184-185	$CHCl_3$						2
CH_3	Se	155.5-156	$CHCl_3$-EtOH[b)]	0.56	0.97		CH_3CN	0.1M TBAP	4, 6, 7
$-(CH_2)_3-$	Se	196(dec.)	$CHCl_3$-EtOH[b)]	0.56	0.98		CH_3CN	0.1M TBAP	4, 6, 7
$-S(CH_2)_2S-$	Se	201 (dec.)	$CHCl_3$	0.73			CH_3CN	0.1M TBAP	4, 7
	S		$CHCl_3$	0.62	1.02		PhCN	0.1M TBAP	5

[a]Solvent for ^{1}H-NMR. [b]Solvent for recrystalliation.

(1) D. L. Coffen, P. E. Garrett, *Tetrahedron Lett*., 2043 (1969).
(2) T. Mori, and Inokuchi, *Chem. Lett*., 1873 (1992).
(3) D. L. Coffen, J. Q. Chambers, D. R. Williams, P. E. Gerrett, and N. D. Canfield, *J. Amer. Chem. Soc*., **93**, 2258 (1971).
(4) J. Yamada, S. Takasaki, M. Kobayashi, H. Anzai, N. Tajima, M. Tamura, Y. Nishio, and K. Kajita, *Chem. Lett*., 1069 (1995).
(5) J. Yamada, M. Hamasaki, O. Jinih, S. Tanaka, K. Hagiya, and H. Anzai, *Tetrahedron Lett*., **38**, 3439 (1992).
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(7) J. Yamada, S. Satoki, S. Mishima, N. Akashi, K. Takahashi, N. Masauda, Y. Nishimoto, S. Takasaki, and H. Anzai, *J. Org. Chem*., **61**, 3987 (1996).
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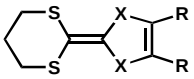
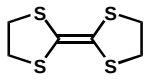


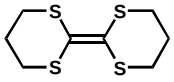
R	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)		reference
-SCH_2S-	180 (dec.)	$CHCl_3$	0.67	1.06	PhCN	0.1M TBAP	1, 3
-$S(CH_2)_2S$-	152-153	$CHCl_3$	0.69	0.99	PhCN	0.1M TBAP	1, 3
-SCH=CHS-	148-149	$CHCl_3$-EtOH[b]					2, 3

[a]Solvent for ^{1}H-NMR. [b]Solvent for recrystalliation.

(1) J. Yamada, N. Akashi, H. Anzai, M. Tamura, Y. Nishio, K. Kajita, *Mol. Cryst. Liq. Cryst* ., **296**, 53 (1997).
(2) J. Yamada, Y. Amano, S. Takasaki, R. Nakanishi, K. Matsumoto, S. Satoki, and H Anzai, *J. Amer. Chem. Soc* ., **117**, 1149 (1995).
(3) J. Yamada, S. Satoki, S. Mishima, N. Akashi, K. Takahashi, N. Masauda, Y. Nishimoto, S. Takasaki, and H. Anzai *J. Org. Chem.* , **61**, 3987 (1996).



1

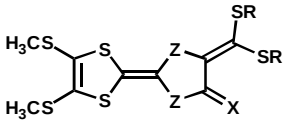


2

	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)		reference
1	200-202	$CHCl_3$	0.68	1.12	CH_3CN	0.1M TEAP	1, 2
2			0.695	0.840	CH_3CN	0.1M TEAP	1, 2

[a]Solvent for ^{1}H-NMR

(1) D. L. Coffen, P. E. Garrett, *Tetrahedron Lett* ., 2043 (1969).
(2) D. L. Coffen, J. Q. Chambers, D. R. Williams, P. E. Gerrett, and N. D. Canfield, *J. Amer. Chem. Soc* ., **93**, 2258 (1971).



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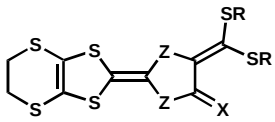
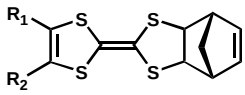


2

	X	R	mp/°C	solubility[a)]	E_1	E_2	CV (vs. Ag/AgCl)		reference
1	O	-CH_2CH_2-		CS_2-MeOH	0.62	0.78	DMF	0.1M TEAP	1
1	O	-CH=CH-		CS_2-MeOH	0.62	0.85	DMF	0.1M TEAP	1
1	O			CS_2-MeOH	0.66	0.85	DMF	0.1M TEAP	1
1	S	-CH_2CH_2-		CS_2-MeOH	0.59	0.76	DMF	0.1M TEAP	1
1	S	-CH=CH-		CS_2-MeOH	0.61	0.77	DMF	0.1M TEAP	1
1	S			CS_2-MeOH	0.64	0.80	DMF	0.1M TEAP	1
2	S	-CH=CH-							2

[a]Solvent for recrystalliation.

(1) M. Iwamatsu, T. Kominami, K. Ueda, T. Sugimoto, H. Fujita, and T. Adachi, *Chem. Lett* ., 329 (1999).
(2) M. Iwamatsu, T. Kominami, K. Ueda, T. Sugimoto, H. Fujita, T. Adachi, H. Yoshino, and K. Murata, *Abstracts of Sympsium on Molecular Structure* , 1pA02 (1999).



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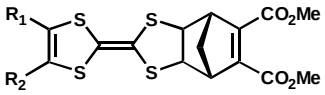

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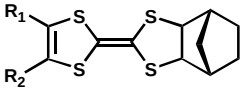

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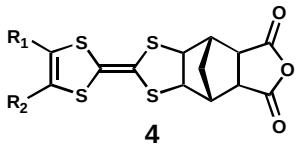

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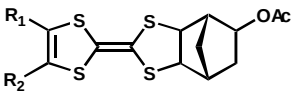
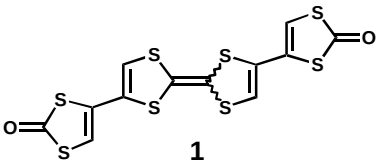


5

	R1	R2	mp/°C	solubility	E_1	E_2	CV (vs. SCE)	reference
1	CO_2Me	CO_2Me	103-104					1
	CO_2Et	CO_2Et	73-75					1
	CO_2Me	H	137-138					1
	CO_2Et	H	123-126					1
	CO_2Me	Ph	90-93					1
2	CO_2Me	CO_2Me	146-147					1
3	CO_2Me	CO_2Me	110-111					2
	CO_2Et	CO_2Et	86-87					2
	CO_2Me	H	123-124					2
	CO_2Et	H	110-112					2
	CO_2Me	Ph	48-50					2
4	CO_2Me	CO_2Me	272-273					2
5	CO_2Me	CO_2Me	135-141					2
	CO_2Et	CO_2Et	oil					2

(1) R. A. Aitken, L. Hill, and N. J. Wilson, *Tetrahedron Lett*., **40**, 1061 (1999).
(2) R. A. Aitken, L. Hill, and P. Lightfoot, *Tetrahedron Lett*., **38**, 7927 (1997).



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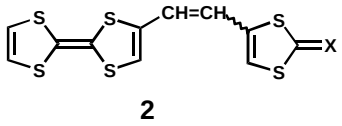

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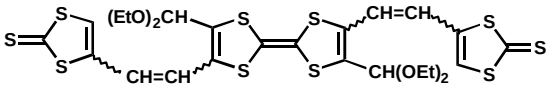

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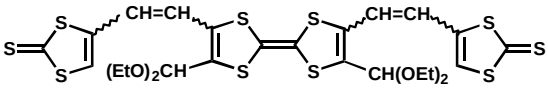
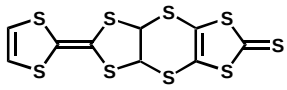


4

	X		mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)		reference
1			275-277	$CHCl_3$	0.78	0.90	DMF	0.1M TEAP	1
2	O								2
	S	*trans*	210 (dec.)	DMSO	0.67	0.96	THF	0.1M TBAP	2
3									2
4									2

[a]Solvent for ^{1}HNMR.

(1) J. R. Andersen, V. V. Patel, and E. M. Engler, *Tetrahedron Lett.,* 239 (1978).
(2) T. Nozdryn, J. Cousseau, A. Gorues, M. Jubault, J. Orduna, S. Uriel, and J. Garín, *J. Chem. Soc. Perkin Trans. 1,* 1711 (1993).



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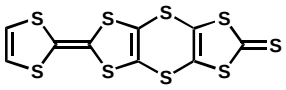

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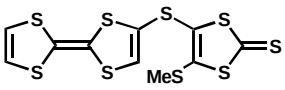
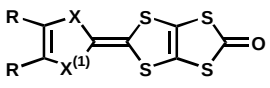


3

	mp/°C	solubility[a)]	E_1	E_2	CV (vs. Ag / AgCl)		reference
1	165 (dec.)	benzene	0.37	0.72	DMF	0.1M TBAP	1
2	231-232 (dec.)	toluene or PhCl	0.59	0.71	DMF	0.1M TBAP	1
3	oi.	$CHCl_3$[b)]	0.48	0.67	DMF	0.1M TBAP	1

[a]Solvent for recrystallization. [b]Solvent for ^{1}HNMR.

(1) V. Y. Khodorkovsly, J. Y. Becker, and J. Bernstein, *Synthesis,* 1071 (1992).



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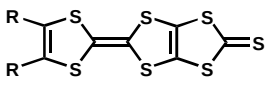

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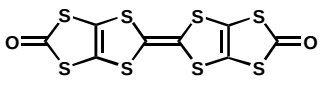

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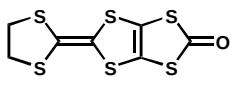


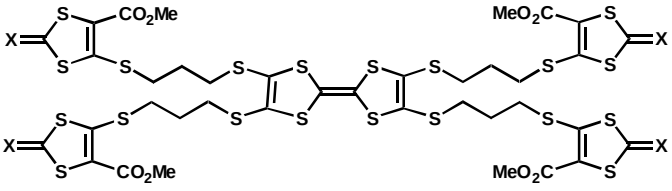
4

	R	X	(X^1)	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)	reference
1	H	S		152.0-152.8 (dec.)	CS_2-benzene				1, 6
	CH_3	S							2
	CN	S		196 (dec.)	CH_3CN[b)]				4
	CF_3	S		146-147	hexane[b)]				4

	CO_2Me	S	215-220 (dec.)	$CHCl_3$-hexane[c)]	5
	$-(CH_2)_3-$	S	184-185 (dec.)	PhCl[b)]	8
	$-(CH_2)_4-$	S			9
	$-(CH=CH)_2-$	S			10
	SCH_3	S	178 (dec.)	$CHCl_3$	3
		S	192-193	CS_2-$CHCl_3$	6
	SEt	S	167-168 (dec.)	$CHCl_3$	6, 7
	$SC_6H_{13}{}^n$	S	132-133.5	$CHCl_3$	6, 7
	$-SCH_2S-$	S			11
	$-S(CH_2)_2S-$	S			11
	$-S(CH_2)_3S-$	S			11
	$-O(CH_2)_2O-$	S			12
	$-Se(CH_2)_2Se$	S			13
	CH_3	Se	222	$CHCl_3$-CS_2[b)]	16
	$-(CH_2)_3-$	Se	198	$CHCl_3$-CS_2[b)]	16
	CO_2Me	S (Se)	204 (dec.)	nitrobenzene	17
2	H				14
	CH_3				15
	SCH_3				15
	$-O(CH_2)_2O-$				15
3			>360		3
4			212 (dec.)	CS_2[b)]	16

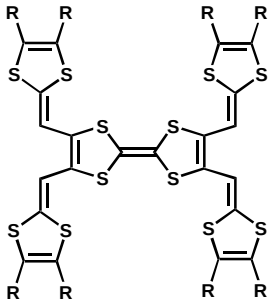
[a]Solvent for ^{1}HNMR. [b]Solvent for recrystallization. [c]Solvent for chromatography.

(1) Y. Misaki, T. Matsui, K. Kawakami, H. Nishikawa, T. Yamabe, and M. Shiro, *Chem. Lett.,* 1337 (1993).
(2) Y. Misaki, K. Kawakami, T. Matsui, T. Yamabe, and M. Shiro, *J. Chem. Soc., Chem. Commun.,* 459 (1994).
(3) R. R. Schumaker, and E. M. Engler, *J. Am. Chem. Soc.,* **99**, 5521 (1977).
(4) R. R. Schumaker, and E. M. Engler, *J. Am. Chem. Soc.,* **102**, 6652 (1980).
(5) E. M. Engler, and V. V. Patel, *J. Chem. Soc., Chem. Commun.,* 516 (1979).
(6) H. Nishikawa, Diss. Kyoto University 1993.
(7) H. Nishikawa, S. Kawauchi, Y. Misaki, and T. Yamabe, *Chem. Lett.,* 43 (1996).
(8) Y. Misaki, K. Kawakami, H. Fujiwara, T. Miura, T. Kochi, M. Taniguchi, and T. Yamabe, *Mol. Cryst. Liq. Cryst.,* **296**, 77 (1997).
(9) Y. Misaki, T. Miura, M. Taniguchi, H. Fujiwara, T. Yamabe, T. Mori, H. Mori, and S. Tanaka, *Adv. Mater.,* **9**, 714 (1997).
(10) Y. Misaki, T. Miura, H. Fujiwara, K. Kawakami, T. Yamabe, T. Mori, H. Mori, and S. Tanaka, *Synth. Met.,* **86**, 1821 (1997).
(11) Y. Misaki, T. Miura, K. Kawakami, H. Fujiwara, T. Yamabe, T. Mori, H. Mori, S. Tanaka, and M. Shiro, *Synth. Met.,* **70**, 1149 (1995).
(12) Y. Misaki, H. Nishikawa, K. Kawakami, T. Yamabe, T. Mori, H. Inokuchi, H. Mori, and S. Tanaka, *Chem. Lett.,* 2073 (1993).
(13) T. Mori, M. Ashizawa, M. Aragaki, K. Murata, Y. Misaki, and K. Tanaka, *Chem. Lett.,* 253 (1998).
(14) Y. Misaki, T. Kochi, T. Yamabe, and T. Mori, *Adv. Mater.,* **10**, 588 (1998).
(15) M. Fujiwara, M. Taniguchi, T. Maitani, Y. Misaki, K. Tanaka, K. Sako, K. Takakuwa, N. Morishita, and H. Tatemitsu, *Abstracts of 76th Annual Meeting of the Chemical Society of Japan II,* 3PA151 (1999).
(16) J. Yamada, S. Satoki, S. Mishima, N. Akashi, K. Takahashi, N. Masuda, Y. Nishimoto, S. Tkasaki, and H. Anzai, *J. Org. Chem.,* **61**, 3987 (1996).
(17) R. R. Schumaker, E. M. Engler, *J. Am. Chem. Soc.,* **102**, 6652 (1980).



X	mp/°C	solubility	E_1	E_2	CV (vs. SCE)	reference
O						1
S						1

(1) S. Yunoki, K. Takimiya, Y. Aso, and T. Otsubo, *Tetrahedron Lett.*, **38**, 3017 (1997).



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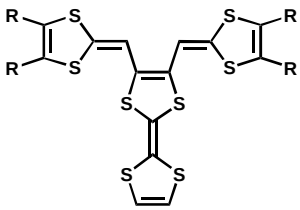

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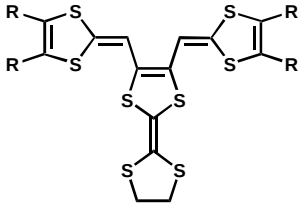
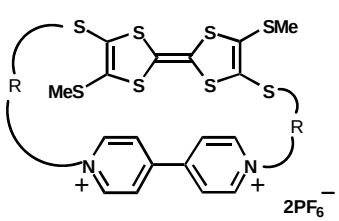


3

	R	mp/°C	solubility[a)]	E_1	E_2	E_3	CV (vs. SCE)		reference
1	H		DMF	0.19	0.34	0.50[b)]	DMF	0.1M TBAP	1, 2, 3
	CO_2Me		DMF, TCE	0.32	0.65	0.81[b)]	DMF	0.1M TBAP	1, 2, 3
				0.34	0.65	0.95	TCE	0.1M TBAP	1, 2, 3
	$-(CH_2)_4-$		DMF, TCE	0.13	0.29	0.48	DMF	0.1M TBAP	1, 2, 3
				0.08	0.17	0.51	TCE	0.1M TBAP	1, 2, 3
	$-(CH=CH)_2-$								1, 2, 3
2	H		DMF	0.22	0.30		DMF	0.1M TBAP	1, 2, 3
3	H		DMF, TCE	0.29			DMF	0.1M TBAP	1, 2, 3
				0.26	0.39		TCE	0.1M TBAP	1, 2, 3
	CO_2Me		DMF, TCE	0.51	0.58		DMF	0.1M TBAP	1, 2, 3
				0.51	0.74		TCE	0.1M TBAP	1, 2, 3

[a]Solvent for CV. [b]Irreversible.

(1) M. Sallé, M. Jubault, A. Gorgues, K. Boubekeur, M. Fourmigué, P. Batail, and E. Vanadell, *Chem. Mater*., **5**, 1196 (1991).
(2) M. Sallé, P. Frere, A. Gorgues, and M. Jubault, *Phosphorus, Sulfur, and Silicon* , **74**, 473 (1991).
(3) M. Sallé, A. Gorgues, M. Jubault, and Y. Gouriou, *Synth. Met*., **41-43**, 2575 (1991).



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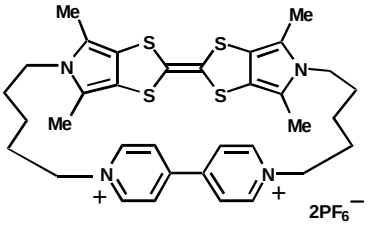

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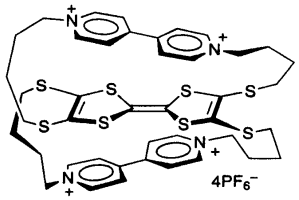
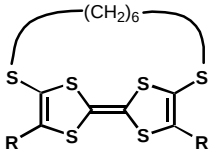


3

	R		mp/°C	solubility[a)]	E_1	E_2	E_3	E_4	CV (vs. SCE)	reference
1	-$(CH_2)_4$-	*trans*	217 (dec.)	DMSO	-0.9	-0.4	0.58	0.82	CH_3CN 0.1M TBAHP	1
	-$(CH_2)_5$-	*cis/trans*	144-145 (dec.)	DMSO	-0.9	-0.4	0.54	0.78	CH_3CN 0.1M TBAHP	1
	-$(CH_2)_2O(CH_2)_2$-	*cis/trans*	215-217 (dec.)	DMSO	-0.9	-0.40	0.51	0.76	CH_3CN 0.1M TBAHP	1
2			>250	DMSO	-0.8	-0.4	0.45	0.76	CH_3CN 0.1M TBAHP	1
3		*trans*	175 (dec.)	DMSO	0.64	0.94			CH_3CN 0.1M TBAHP[b)]	2

[a]Solvent for ^{1}HNMR. [b]V vs. Ag / AgCl.

(1) K. B. Simonsen, K. Zong, R. D. Rogers, and M. P. Cava, *J. Org. Chem.,* **62**, 679 (1997).
(2) K. B. Simonsen, N. Thorup, M. P. Cava, and J. Becher, *Chem. Commun.,* 901 (1998).



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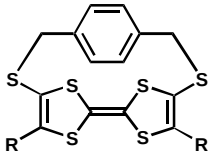

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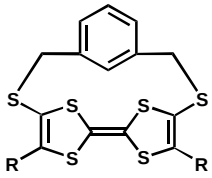

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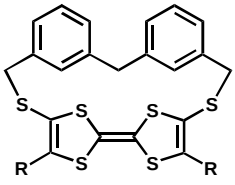
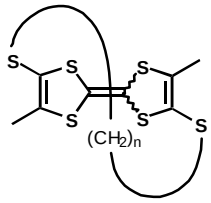


4

	R	mp/°C	solubility[a)]	E_1	E_2	CV (vs. Ag / AgCl)	reference
1	*p*-MeC_6H_4		$CHCl_3$	0.46[b)]		CH_2Cl_2 0.1M TEAT	1
2	*p*-MeC_6H_4		$CHCl_3$	0.46[b)]		CH_2Cl_2 0.1M TEAT	1
	CO_2Me	224	$CHCl_3$	1.00[b)]		CH_3CN TBAHP	2
	H	>184 (dec.)	$CHCl_3$	0.81[b)]		CH_2Cl_2 TBAHP	2
3	CO_2Me	233	$CHCl_3$	1.05[b)]		CH_3CN TBAHP	2
4	*cis*	192-194	$CHCl_3$	0.39	0.83	CH_3CN TBAHP	2
4	*trans*	210-212	$CHCl_3$	0.44	0.83	CH_3CN TBAHP	2

[a]Solvent for ^{1}HNMR. [b]The peak potential of an irreversible anodic wave

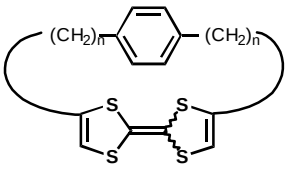
(1) F. Bertho-Thoraval, A. Robert, A. Souizi, K. Boubekeur, and P. Batail, *J. Chem. Soc., Chem. Commun.,* 843 (1992).
(2) J. Lau, P. Blanchard, A. Riou, M. Jubault, M. P. Cava, and J. Becher, *J. Org. Chem.,* **62** , 4936 (1997).



n		mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)		reference
10	*trans*	158-159	$CHCl_3$	0.47		CH_2Cl_2	0.1M TBAHP	1
	cis			0.4	0.75	CH_2Cl_2	0.1M TBAHP	1
12	*trans*	115-116	$CHCl_3$	0.48		CH_2Cl_2	0.1M TBAHP	1
	cis			0.45	0.83	CH_2Cl_2	0.1M TBAHP	1

[a]Solvent for ^{1}HNMR. [b]V vs. Ag / AgCl.

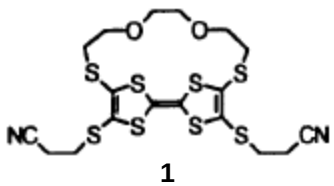
(1) K. Bouberkeur, C. Lenoir, P. Batail, R. Carlier, A. Tallec, M-P. Le Paillard, D. Lorcy, and A. Robert, *Angew. Chem. Int. Ed. Engl.,* **33**, 1379 (1994).



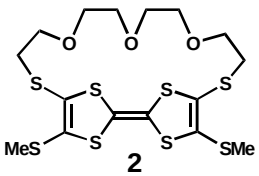
n		mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)	reference
3	*trans*	180-182	cyclehexane				1
	cis						1
4	*trans*						1
	cis	157-158					1

[a]Solvent for recrystallization.

(1) H. A. Staab, J. Ippen, C. Tao-pen, C. Krieger, and B. Starker, *Angew. Chem., Int. Ed. Engl.,* **19**, 66 (1980).



1

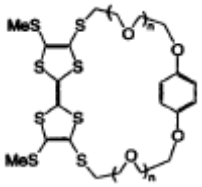


2

		mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)		reference
1	(*cis/trans*)		CH_3CN[b)]	0.50	0.77	CH_3CN	0.1M TBAHP	1
2	(*cis/trans*)	oil	$CHCl_3$					2

[a]Solvent for CV. [b]V vs. Ag / AgCl.

(1) F. L. Derf, M. Sallé, M. Mazari, J. Becher, M. Jubault, A. Gorgues, J. Orduna, and J. Garín, *Synth. Met.,* **94**, 49 (1998).
(2) Z. -T. Li, P. C. Stein, J. Becher, D. Jensen, P. Mørk, and N. Svenstrup, *Chem. Eur. J.,* **2**, 624 (1996).



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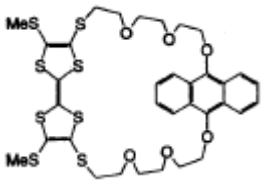
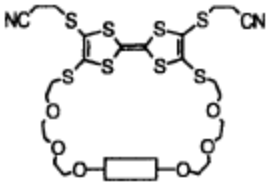


2

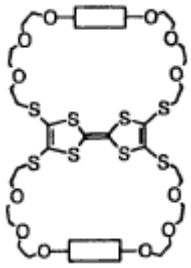
	n		mp/°C	solubility[a)]	E_1	E_2		CV (vs. Ag / AgCl)		reference
1	0	(*cis/trans*)								1
	1	(*trans*)	99-101	$CHCl_3$	0.46	0.74	1.01	CH_3CN	0.1M TBAHP	2
	2	(*cis/trans*)	oil	$CHCl_3$	0.53	0.83		CH_2Cl_2	0.1M TBAHP	3
2		(*cis/trans*)	oil	$CHCl_3$	0.43	0.77	1.41[b)]	CH_2Cl_2	0.1M TBAHP	3

[a]Solvent for ^{1}HNMR. [b]Irreversible.

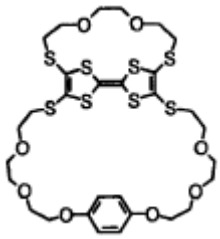
(1) M. B. Nielsen, and J. Becher, *Liebig Ann.*, 2177 (1997).
(2) J. Becher, J. Lau, P. Leriche, P. Mørk, and N. Svenstrup, *J. Chem. Soc., Chem. Commun.*, 2715 (1994).
(3) Z. -T. Li, P. C. Stein, J. Becher, D. Jensen, P. Mørk, and N. Svenstrup, *Chem. Eur. J.*, **2**, 624 (1996).



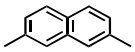
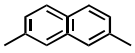
1
(*cis/trans*)



2
(*cis/trans*)

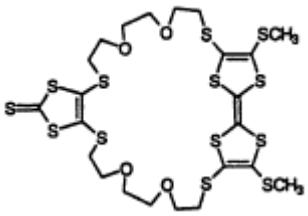


3
(*cis/trans*)

		mp/°C	solubility[a)]	E_1	E_2		CV (vs. SCE)		reference
1		oil	$CHCl_3$				CH_2Cl_2	0.1M TBAHP	1
		oil	$CHCl_3$				CH_2Cl_2	0.1M TBAHP	1
		oil	$CHCl_3$				CH_2Cl_2	0.1M TBAHP	1
		oily solid	$CHCl_3$				CH_2Cl_2	0.1M TBAHP	1
2		oil	$CHCl_3$	0.50	0.79	1.38[b)]	CH_2Cl_2	0.1M TBAHP	1
		oil	$CHCl_3$	0.38	0.73	1.05[b)]	CH_2Cl_2	0.1M TBAHP	1
		oil	$CHCl_3$	0.37	0.68	1.01	CH_2Cl_2	0.1M TBAHP	1
		oily solid	$CHCl_3$	0.40	0.70	1.06	CH_2Cl_2	0.1M TBAHP	1
3		oil	$CHCl_3$						1

[a]Solvent for ^{1}HNMR. [b]Irreversible.

(1) Z. -T. Li, P. C. Stein, J. Becher, D. Jensen, P. Mørk, and N. Svenstrup, *Chem. Eur. J.*, **2**, 624 (1996).



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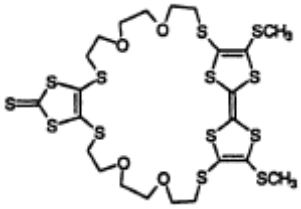
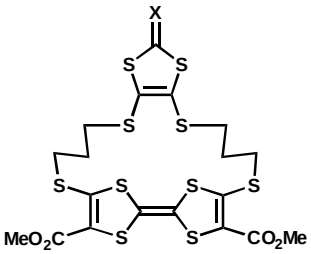


2

		mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)	reference
1	(*cis/trans*)	oil	$CHCl_3$				1
2	(*cis/trans*)	oil	$CHCl_3$				1

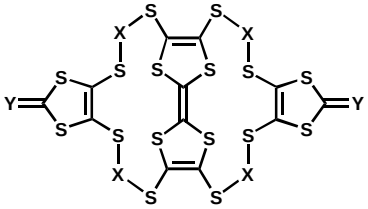
[a]Solvent for ^{1}HNMR.

(1) M. B. Nielsen, Z. -T. Li, and J. Becher, *J. Mater. Chem*, **7**, 1175 (1997).



X		mp/°C	solubility	E_1	E_2	CV (vs. SCE)	reference
S	(*cis/trans*)						1
O	(*cis/trans*)						1

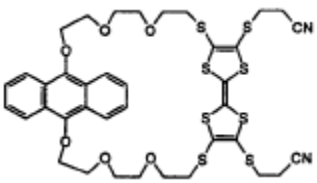
(1) S. Yunoki, K. Takimiya, Y. Aso, and T. Otsubo, *Tetrahedron Lett.*, **38**, 3017 (1997).



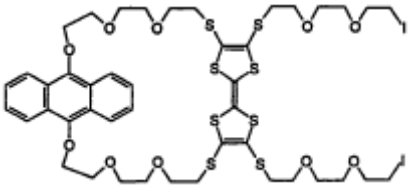
	X	Y	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)	reference
1	$-(CH_2)_2-$	S	270 (dec.)	CS_2-$CHCl_3$				1
	$-(CH_2)_3-$	S	231-232 (dec.)	CS_2-$CHCl_3$				1, 2
	$-(CH_2)_4-$	S	199 (dec.)	CS_2-$CHCl_3$				1
	$-(CH_2)_5-$	S	201 (dec.)	CS_2-$CHCl_3$				1
	$-(CH_2)_2-$	O	254 (dec.)	CS_2-$CHCl_3$				1
	$-(CH_2)_3-$	O	234 (dec.)	CS_2-$CHCl_3$				1, 2

	$-(CH_2)_4-$	O	207-208 (dec.)	CS_2-$CHCl_3$	1
	$-(CH_2)_5-$	O	130-131	CS_2-$CHCl_3$	1
2	$-(CH_2CH_2O)_2CH_2CH_2-$	O			3

(1) K. Takimiya, K. Imamura, Y. Shibata, Y. Aso, F. Ogura, and T. Otsubo, *J. Org. Chem.,* **62**, 5567 (1997).
(2) K. Takimiya, Y. Shibata, K Imamura, A. Kashihara, Y.Aso, T. Otsubo, and F. Ogura, *Tetrahedron Lett.,* **36**, 5045 (1995).
(3) M. B. Nielsen, and J. Becher, *Liebigs Ann.,* 2177 (1997).



1

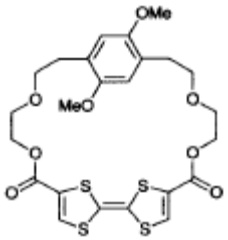


2

		mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)	reference
1	(*cis/trans*)						1
2	(*cis/trans*)	semicrystalline	$CHCl_3$				2

[a]Solvent for ^{1}HNMR.

(1) Z. -T. Li, P. C. Stein, N. Svenstrup, K. H. Lund, and J. Becher, *Angew. Chem. Int. Ed. Engl.,* **34**, 2524 (1995).
(2) M. B. Nielsen, Z. -T. Li, and J. Becher, *J. Mater. Chem,* **7**, 1175 (1997).



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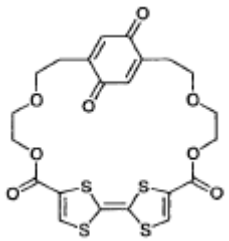
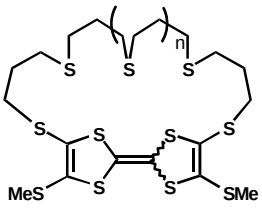


2

	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)	reference
1						1
2		$CHCl_3$				1

[a]Solvent for UV.

(1) R. M. Moriarty, A. Tao, R. Gilardi, Z. Song, and S. M. Tuladhar, *Chem, Commun.,* 157 (1998).



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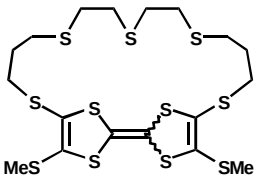
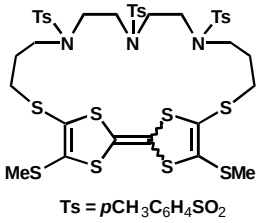


2

	n	mp/°C	solubility	E_1	E_2	CV (vs. SCE)		reference
1	0		CH_3CN[a)]	0.50	0.77	CH_3CN	0.1M TBAHP	1
				0.59	0.89	CH_2Cl_2-CH_3CN	0.1M TBAHP[b)]	2
	1		CH_3CN[a)]	0.50	0.77	CH_3CN	0.1M TBAHP	1
				0.59	0.89	CH_2Cl_2-CH_3CN	0.1M TBAHP[b)]	2
2				0.59	0.89	CH_2Cl_2-CH_3CN	0.1M TBAHP[b)]	2

[a]Solvent for CV. [b]V vs. Ag / AgCl.

(1) J. Becher, J. Lau, P. Leriche, P. Mørk, and N. Svenstrup, *J. Chem. Soc., Chem. Commun.,* 2715 (1994).
(2) F. Le Derf, M. Mazari, N. Mercier, E. Levillain, P. Richomme, J. Becher, J. Garín, J. Orduna, A. Gorhues, and M. Sallé, *Chem. Commun.,* 1417 (1999).



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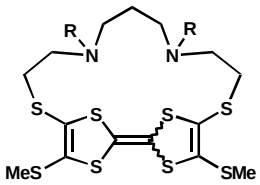
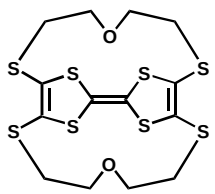


2

	R	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)		reference
1			$CHCl_3$	0.57	0.93	CH_2Cl_2	0.1M TBAHP	1
2	CH_3		$CHCl_3$	0.50	0.77	CH_3CN	0.1M TBAHP	2
	CH_3		$CHCl_3$	0.58	0.84	CH_2Cl_2	0.1M TBAHP	1
	CF_3SO_2		$CHCl_3$	0.50	0.77	CH_3CN	0.1M TBAHP	2
	CF_3SO_2		$CHCl_3$	0.56	0.79	CH_2Cl_2	0.1M TBAHP	1
	$CH_3C_6H_4SO_2$		$CHCl_3$[b)]	0.56	0.79	CH_2Cl_2	0.1M TBAHP	3

[a]Solvent for ^{1}HNMR. [b]Solvent for CV

(1) F. Le Derf. M. Sallé, N. Mercier, J. Becher, P. Rivhomme, A. Gorues, J. Orduna, and J. Garín, *Eur. J. Org. Chem.,* 1861 (1998).
(2) J. Becher, J. Lau, P. Leriche, P. Mørk, and N. Svenstrup, *J. Chem. Soc., Chem. Commun.,* 2715 (1994).
(3) F. Le Derf, M. Sall, M. Mazari, N. Mercier, A. Riou, A. Belyasmine, J. Orduna, J. Garin, J. Becher, and A. Gorgues, *Synth. Met.,* **102**, 1461 (1999).



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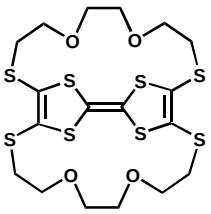
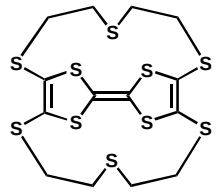


2

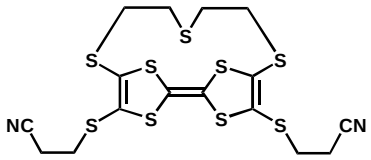
	mp/°C	solubility	E_1	E_2	CV (vs. SCE)		reference
1	>270	$CHCl_3$	1.26[a)]		CH_3CN	0.1M TBAHP	1
2	247	$CHCl_3$	0.41	0.73	TCE	0.1M TBAP	1, 2

[a]The peak potential of an irreversible anodic wave.

(1) T. K. Hansen, T. Jørgensen, F. Jensen, P. H. Thygesen, K. Christiansen, M. B. Hursthouse, M. E. Harman, M. A. Malik, B. Girmay, A. E. Underhill, M. Begtrup, J. D. Kilburn, K. Belmore, P. Roepstorff, and J. Becher, *J. Org. Chem.,* **58**, 1359 (1993).
(2) J. Becher, T. K. Hansen, N. Malhtra, G. Bojesen, S. Bwadt, K. S. Varma, B. Girmay, J. D. Kilburn, and A. E. Underhill, *J. Chem. Soc., Perkin Trans. 1,* 175 (1990).



1

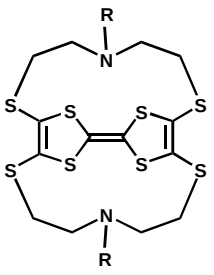


2

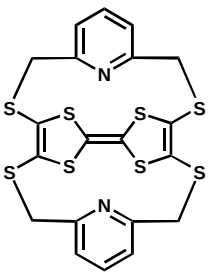
	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)	reference
1	130-132 (dec.)					1
2	172-176	$CHCl_3$				2

[a]Solvent for ^{1}HNMR.

(1) T. Jørgensen, B. Girmay, T. K. Hansen, J. Becher, A. E. Underhill, M. B. Hursthouse, M. E. Harman, and J. D. Kilburn, *J. Chem. Soc., Perkin Trans. 1,* 2907 (1992).
(2) S. Zeltner, R. M. Olk, M. Wagner, B. Olk, *Synthesis,* 1445 (1994).



1



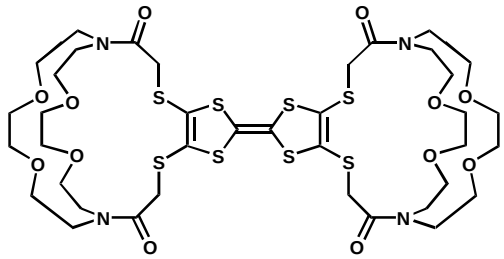
2

	R	mp/°C	solubility	E_1	E_2	CV (vs. SCE)		reference
1	CH_3	248-249	$CHCl_3$[a)]	0.95[c)]		CH_2Cl_2	0.1M TBAHP	1, 3
	C_2H_5	203-204	$CHCl_3$[a)]					1, 3

2	290-292	$CHCl_3$[b)]	0.27	0.57	CH_2Cl_2	0.1M TBAP[d)]	2, 3

[a]Solvent for recrystallization. [b]Solvent for UV. [c]The peak potential of an irreversible anodic wave. [d]V vs. Ag / AgCl.

(1) T. Jørgensen, J. Becher, T. K. Hansen, K. Christiansen, P. Roepstorff, S. Larsen, and A. Nygaard, *Adv. Mater.*, **3**, 486 (1991).
(2) B. Girmay, J. D. Kilburn, A. E. Underhill, K. S. Varma, M. B. Hurthouse, M. E. Harman, J. Becher, G. Bojesen, *J. Chem. Soc., Chem. Commun.*, 1406 (1989).
(3) T. K. Hansen, T. Jørgensen, F. Jensen, P. H. Thygesen, K. Christiansen, M. B. Hursthouse, M. E. Harman, M. A. Malik, B. Girmay, A. E. Underhill, M. Begtrup, J. D. Kilburn, K. Belmore, P. Roepstorff, and J. Becher, *J. Org. Chem.*, **58**, 1359 (1993).



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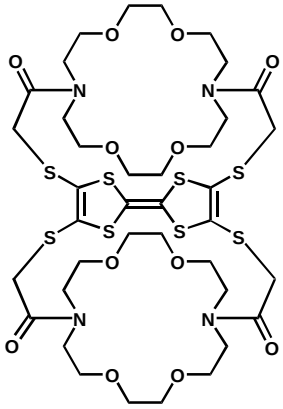
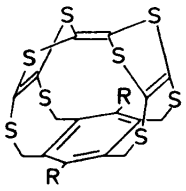


2

	mp/°C	solubility[a)]	E_1[b)]	E_2[b)]	E_1[c)]	E_2[c)]	CV (vs. SCE)		reference
1	230-232 (dec.)	$CHCl_3$	0.50	0.81	0.43	0.72	CH_2Cl_2-CH_3CN	0.1M TBAHP	1
2	210 (dec.)		0.52	0.76	0.44	0.67	CH_2Cl_2-CH_3CN	0.1M TBAHP	1

[a]Solvent for ^{1}HNMR. [b]Anodic peak potential. [c]Cathodic peak potential.

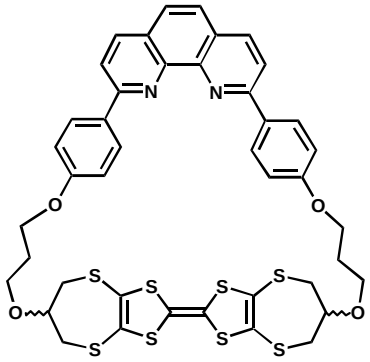
(1) R. Gasiorowski, T. Jørgensen, J. Møller, T. K. Hansen, M. Pietraszkiewicz, and J. Becher, *Adv. Mater.*, **4**, 568 (1992).



R	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)		reference
H			1.09[b)]		CH_2Cl_2	0.1M TBAHP	1
OC_3H_7	227 (dec.)	$CHCl_3$	0.93[b)]				2, 3
OC_4H_9	236 (dec.)	$CHCl_3$					3
OC_6H_{13}	205 (dec.)	$CHCl_3$					2, 3
$OC(O)C_5H_{11}$	186 (dec.)	$CHCl_3$					3

[a]Solvent for ^{1}HNMR. [b]Irreversible.

(1) T. K. Hansen, T. Jrgensen, F. Jensen, P. H. Thygesen, K. Christiansen, M. B. Hursthouse, M. E. Harman, M. A. Malik, B. Girmay, A. E. Underhill, M. Begtrup, J. D. Kilburn, K. Belmore, P. Roepstorff, and J. Becher, *J. Org. Chem.,* **58**, 1359 (1993).
(2) J. Röhrich, P. Wolf, V. Enkelmann, and K. Müllen, *Angew. Chem. Int. Ed. Engl.,* **27**, 1377 (1988).
(3) J. Röhrich, and K. Müllen, *J. Org. Chem.,* **57**, 2374 (1992).



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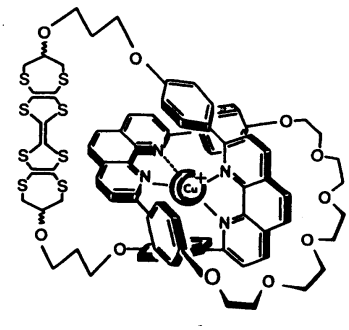
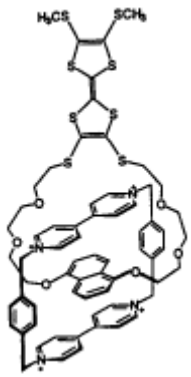


2

	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)	reference
1		CH_2Cl_2				1
2		CH_2Cl_2				1

[a]Solvent for ^{1}HNMR.

(1) T. Jørgensen, J. Becher, J. C. Chambron, and J. P. Sauvage, *Tetrahedron Lett.,* **35**, 4339 (1994).



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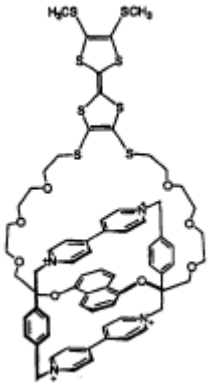
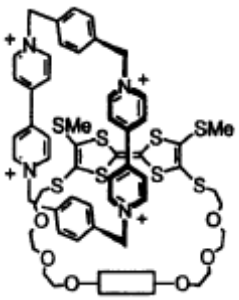


2

	mp/°C	solubility[a)]	E_1	E_2	CV (vs. Ag / AgCl)		reference
1・$4PF_6$	213-215 (dec.)	CH_3CN	0.56	0.79	CH_2Cl_2-MeCN (10% v/v)	0.1M TBAHF	1
2・$4PF_6$	>250	CH_3CN	0.57	0.81	CH_2Cl_2-MeCN (10% v/v)	0.1M TBAHF	1

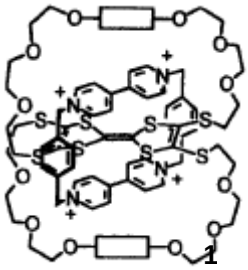
[a]Solvent for ^{1}HNMR.

(1) T. Jørgensen, J. Becher, J. C. Chambron, and J. P. Sauvage, *Tetrahedron Lett.,* **35**, 4339 (1994).



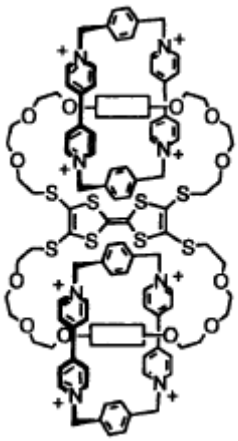
1

(*cis/trans*)



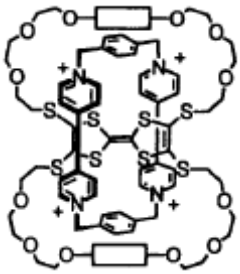
2

(*trans*)



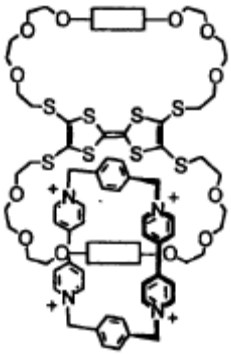
5

(*cis/trans*)



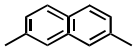
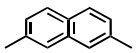
3

(*cis*)



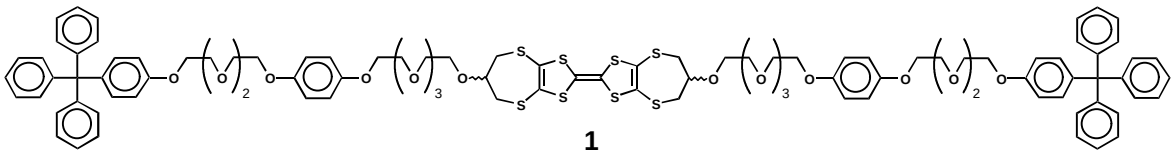
4

(*cis/trans*)

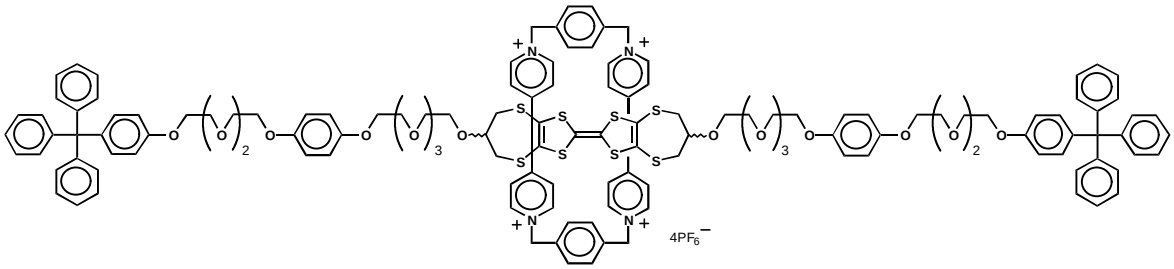
		mp/°C	solubility[a)]	E_1	E_2	E_3	CV (vs. Ag / AgCl)		reference
1・$4PF_6$		146 (dec.)	CH_3CN	0.60	0.84		CH_3CN	0.1M TBAHP	1
		178 (dec.)	CH_3CN	0.60[c)]			CH_3CN	0.1M TBAHP	1
2・$4PF_6$		220 (dec.)	CH_3CN	0.63	0.94	1.34	CH_3CN	0.1M TBAHP	1
		250 (dec.)	CH_3CN	0.52[c)]	0.87[c)]	1.19	CH_3CN	0.1M TBAHP	1
		230 (dec.)	CH_3CN				CH_3CN	0.1M TBAHP	1
		205 (dec.)	CH_3CN	0.46		1.01	CH_3CN	0.1M TBAHP	1
3・$4PF_6$		185 (dec.)	CH_3CN	0.62[c)]	0.92[c)]	1.34	CH_3CN	0.1M TBAHP	1
		195 (dec.)	CH_3CN				CH_3CN	0.1M TBAHP	1
4・$4PF_6$		200 (dec.)	CH_3CN[b)]	0.58	0.82	1.28	CH_3CN	0.1M TBAHP	1
		198 (dec.)	CH_3CN[b)]	0.60	0.85	1.03	CH_3CN	0.1M TBAHP	1
5・$8PF_6$		215 (dec.)	CH_3CN[b)]	0.59		1.00	CH_3CN	0.1M TBAHP	1

[a]Solvent for ^{1}HNMR. [b]Solvent for CV. [c]The peak potential of an irreversible anodic wave.

(1) Z. -T. Li, P. C. Stein, J. Becher, D. Jensen, P. Mørk, and N. Svenstrup, *Chem. Eur. J.*, **2**, 624 (1996).



1

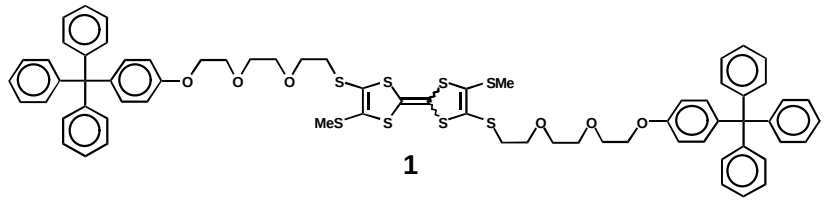


2

	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)	reference
1		$CHCl_3$				1
2		acetone				1

[a]Solvent for ^{1}HNMR.

(1) P. R. Ashton R. A. Bissell, N. Spencer, J. F. Stoddart, and M. S. Tolley, *Synlett.,* 923 (1992).



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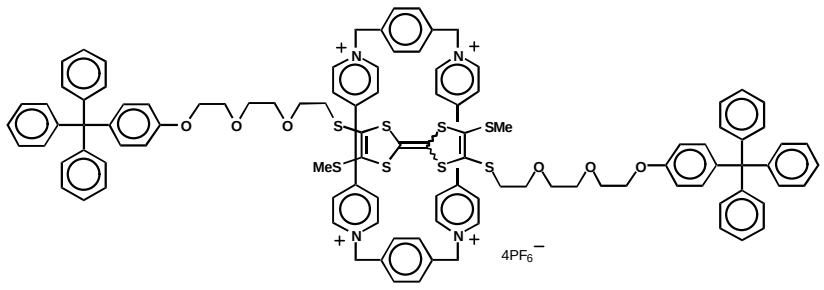

2

	mp/°C	solubility[a)]	E_1	E_2	CV (vs. SCE)	reference
1[b)]	144-146	$CHCl_3$	0.54	0.87	CH_2Cl_2).1M TBAHl	1
	83-85	$CHCl_3$				
2	153 (dec.)	CH3CN	0.61	0.94	CH_3CN).1M TBAHl	1

[a]Solvent for ^{1}HNMR. [b]Two isomers not assigned as *cis* or *trans* isomer.

(1) Z. -T. Li, P. C. Stein, J. Bicher, D. Jensen, P. Mørk, and N. Svenstrup, *Chem. Eur. J.,* **2**, 624 (1996).