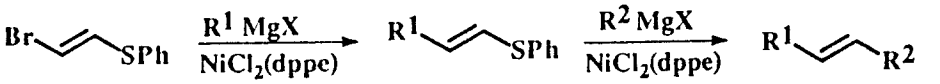
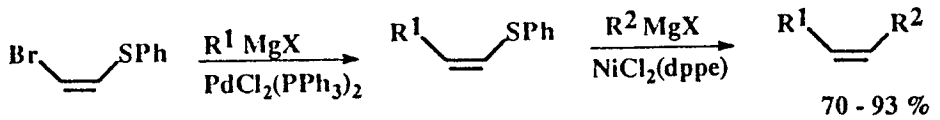
Sequential Coupling Reactions of Grignard Reagents with 1-Bromo-2-phenylthioethene



91 - 100 %



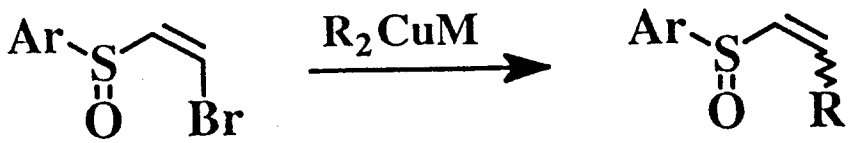
70 - 93 %

R^1, R^2 = alkyl, aryl, vinyl, alkynyl

Stereospecificity E> 99 %
Z > 97 %

J. Chem. Soc.,Chem Commun **1982**, 647;
J. Chem. Soc. Perkin Trans. 1, **1985**, 1115;
Pure and Appl. Chem. **1988**, *60*, 79;
Encyclopedia of Reagents for Organic Synthesis **1995**, *1*, 758.

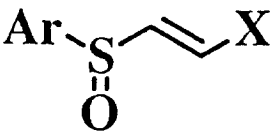
Reactions of Halovinylsulfoxides with Cuprates

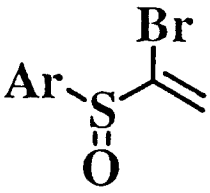


R = Alkyl, Aryl yields = 52 - 71 %

J. Org. Chem. **1992**, *57*, 1718.

Reactions of Halovinylsulfoxides with Grignard Reagents

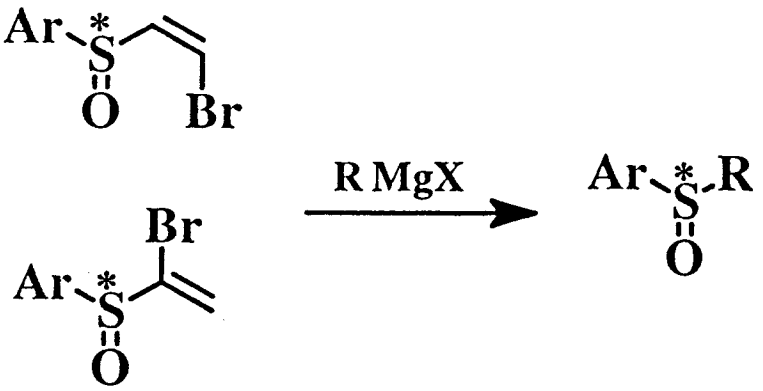




yields = 79-93%
R= alkyl, aryl

J. Org. Chem. **1992**, *57*, 1718.

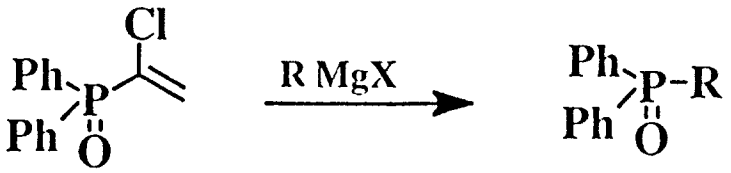
Optically Active Sulfoxides by Enantiospecific Reactions



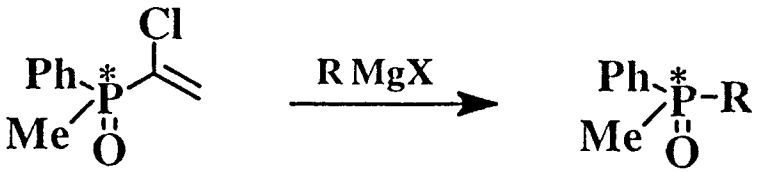
Yields = 71-86 %
Enantiospecificity 98-100%
R= alkyl, aryl

Tetrahedron Lett. **1992**, *33*, 5121.

Reactions of Halovinylphosphine Oxides with Grignard Reagents



R= alkyl, aryl



R = Alkenyl, Aryl
Enantiospecificity 98-100%
Yields = 51 - 90 %

Tetrahedron Lett. **1993**, *34*, 3135;
Tetrahedron Lett. **1994**, *35*, 6343.

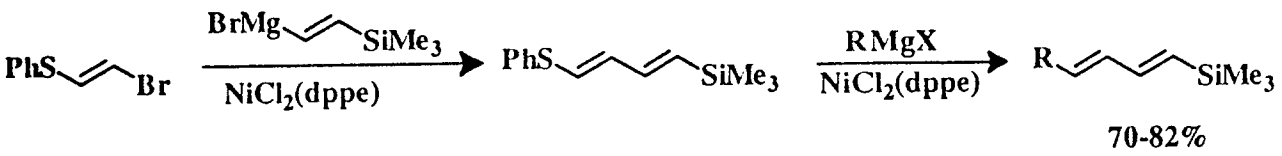
Reactions of Dimethylphosphorylmethyl *p*-Tolyl Sulfoxide with Grignard Reagents

R= alkyl, aryl

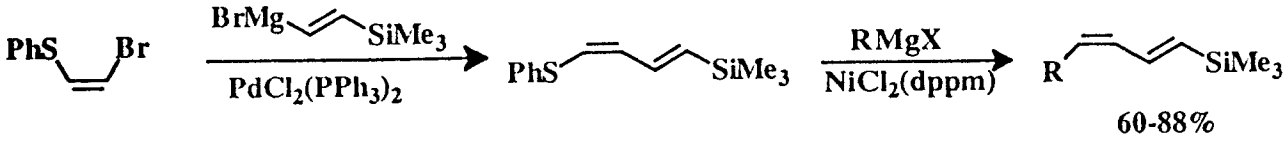
Yields = 50-75 % **Enantiospecificity 98-100%**

Tetrahedron Lett. **1996**, *37*, 6017.

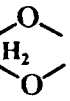
Stereospecific Synthesis of Trimethylsilyl-1,3-dienes



70-82%



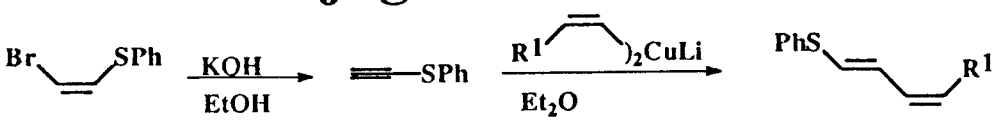
60-88%

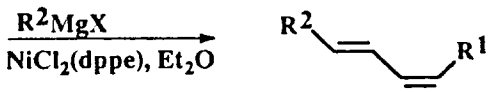
R = *n*-C_4H_9, *n*-C_5H_{11}, *n*-C_6H_{13}, C_6H_5, $C_6H_5(CH_2)_3$, $ThpO(CH_2)_7$, 3,4-  C_6H_3

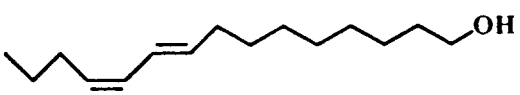
Stereospecificity: (1*E*,3*Z*)/(1*E*,3*E*) > 97 / 3
(1*E*,3*E*)/(1*E*,3*Z*) > 98 / 2

*Tetrahedron Lett.*1988, *29*, 3705.

Insect Pheromones with a *E*-*Z* or *Z*-*E* Conjugated Diene Structure

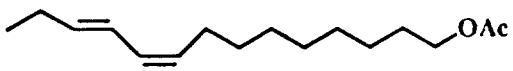






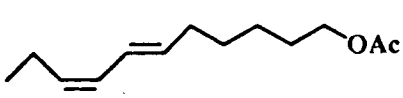
80 % (10*E*,12*Z* = 97 %)

Bombyx mori



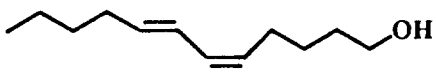
78 % (9*Z*, 11*E*= 98 %)

Spodoptera littoralis



78 % (7*E*, 9*Z* = 97 %)

Lobesia botrana

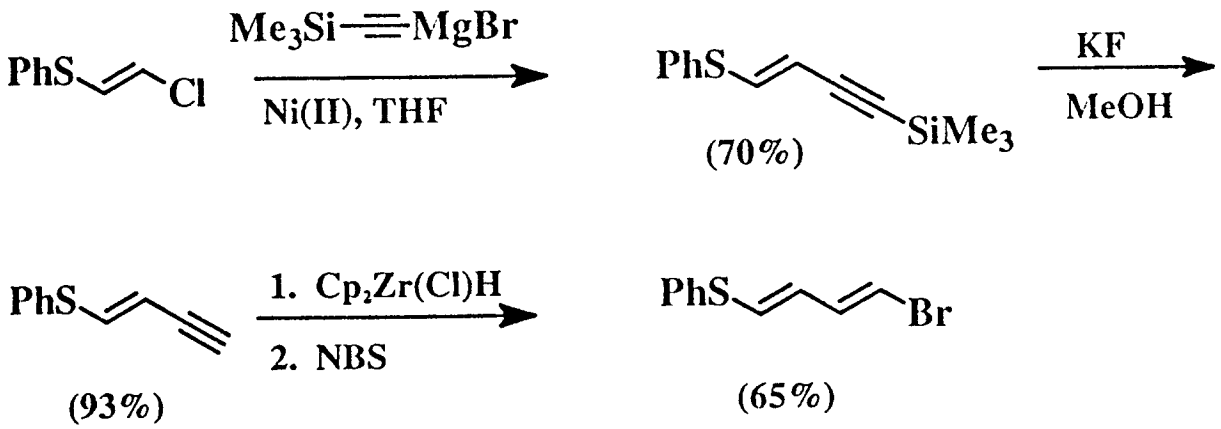


77 % (5*Z*, 7*E*= 98 %)

Malacosoma disstria

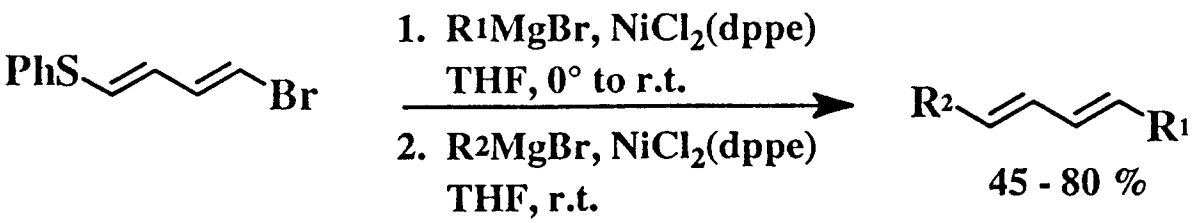
Tetrahedron Lett. 1989, *30*, 243.

Synthesis of (1E,3E)-1-Bromo-4-phenylthio--1,3-butadiene



Tetrahedron Lett. **1994**, *35*, 8847

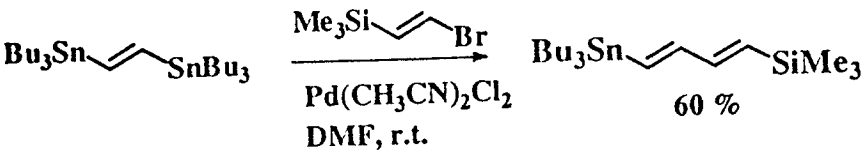
Synthesis of Conjugated (E,E)-Dienes

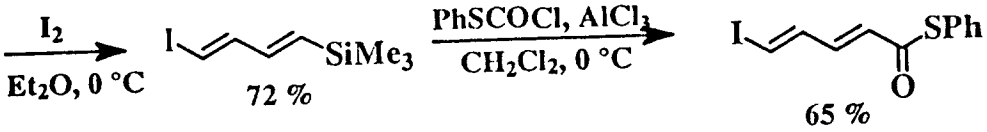


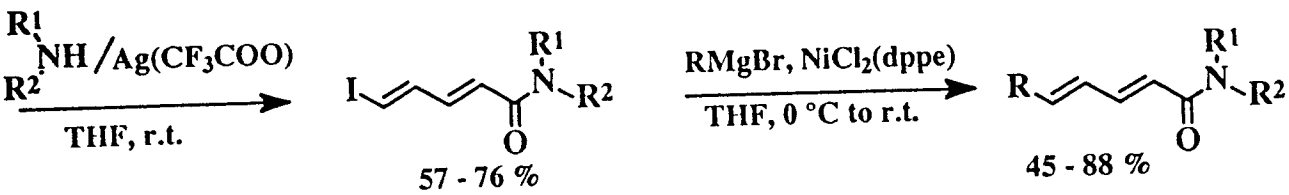
R^1, R^2 = Alkyl, Alkenyl, Aryl, Heteroaryl

Tetrahedron Lett. **1994**, *35*, 8847.

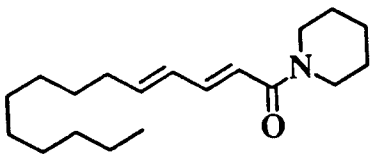
Synthesis of Dienamides



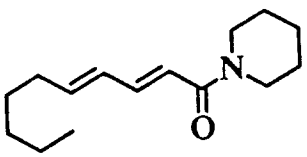




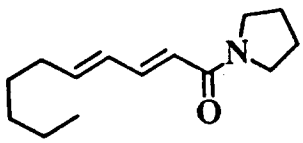
Tetrahedron Lett. 1994, *35*, 2067.



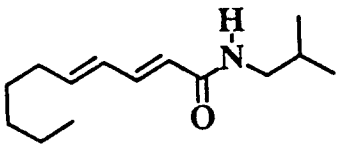
(60%) ***Othantus maritimus***



(88%) ***Achillea***

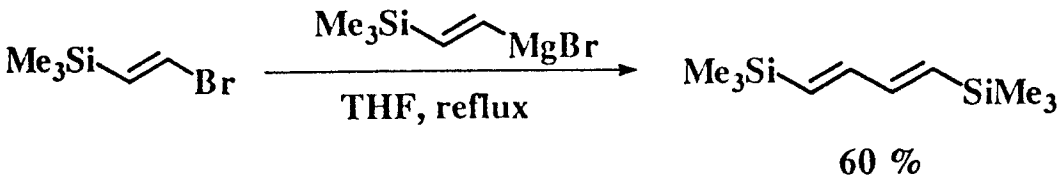


(68%) ***Piper sarmentosum***

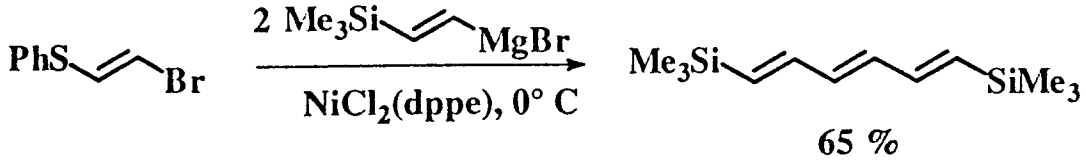


(45%) ***Piper sylvaticum***

Synthesis of bis(Trimethylsilyl)-1,3-Butadiene and 1,6-Hexatriene



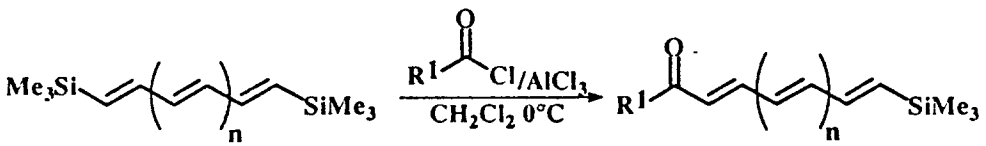
60 %



65 %

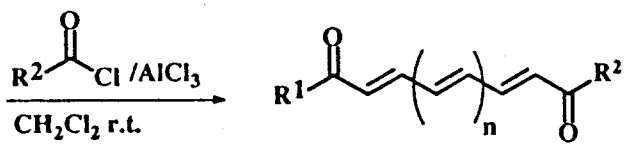
Encyclopedia of Reagents for Organic Synthesis **1995**, *1*, 594.

Synthesis of Diketo-Dienes and -Trienes



n = 0,1

65 - 80 %

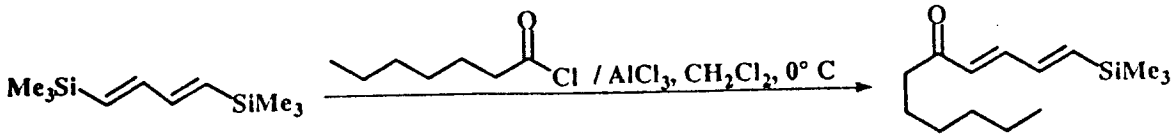


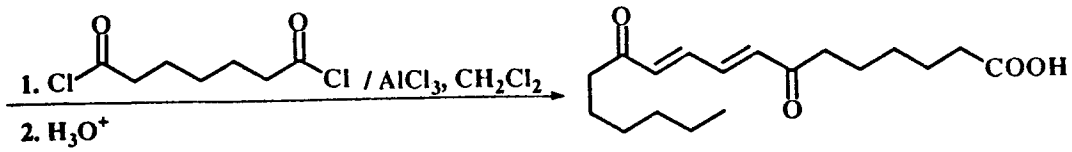
52 - 58 %

R^1 = Ph, $MeO_2C(CH_2)_3$, $MeO_2C(CH_2)_8$, *n*-C_3H_7, *n*-C_7H_{15}
R^2 = *n*-C_3H_7, *n*-C_7H_{15}, Ph, $PhCH_2$

J. Chem. Soc., Chem. Commun. **1991**, 237.

Ostopanic Acid Synthesis



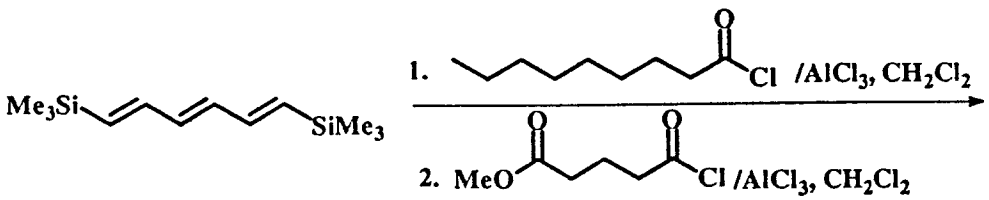


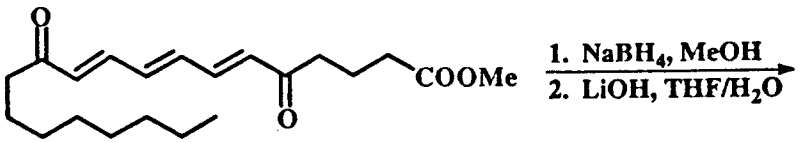
(53%)

Ostopanic acid

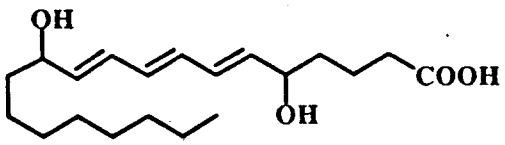
J. Org. Chem. 1991, *56*, 6245.

(6*E*)-LTB_3 Synthesis





59 %

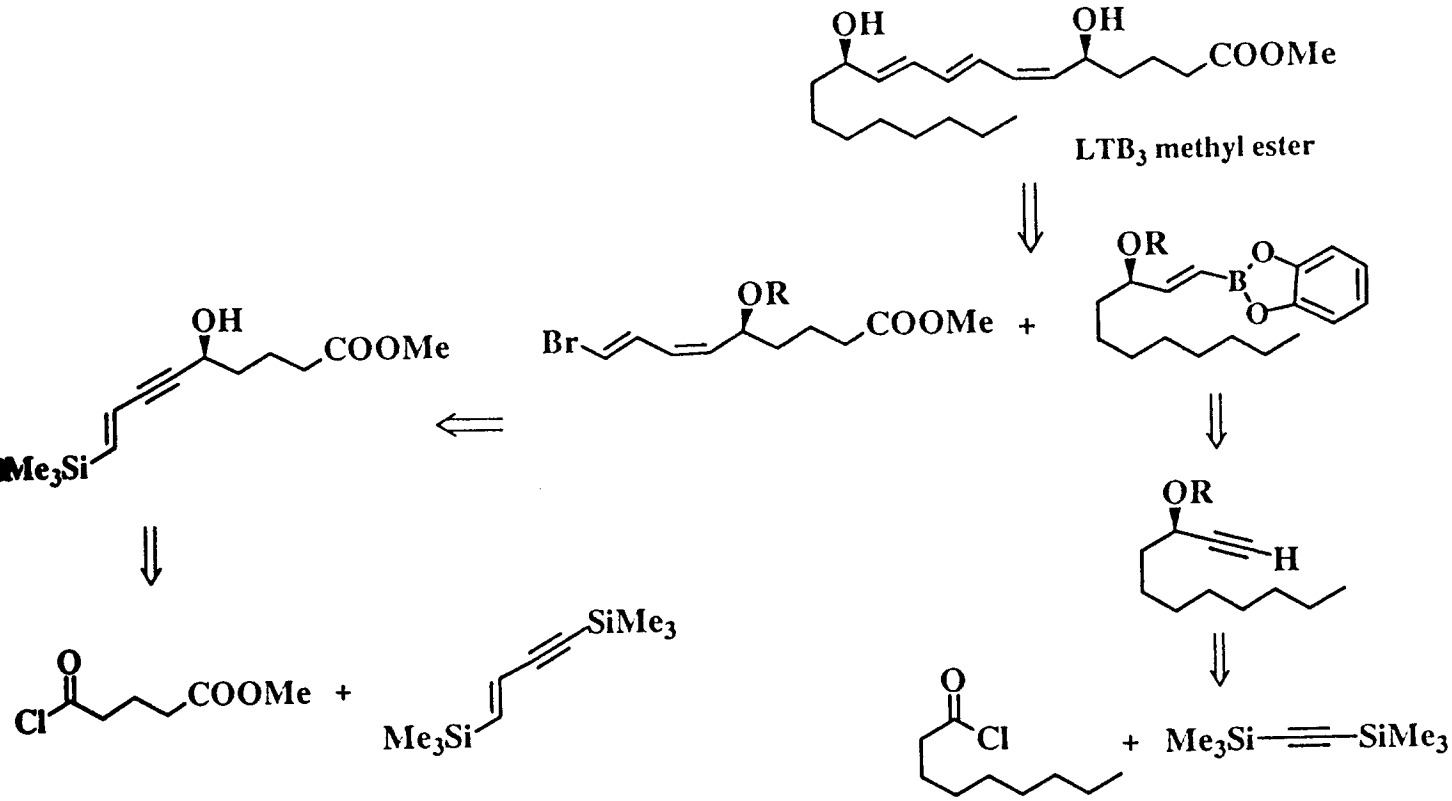


46 %

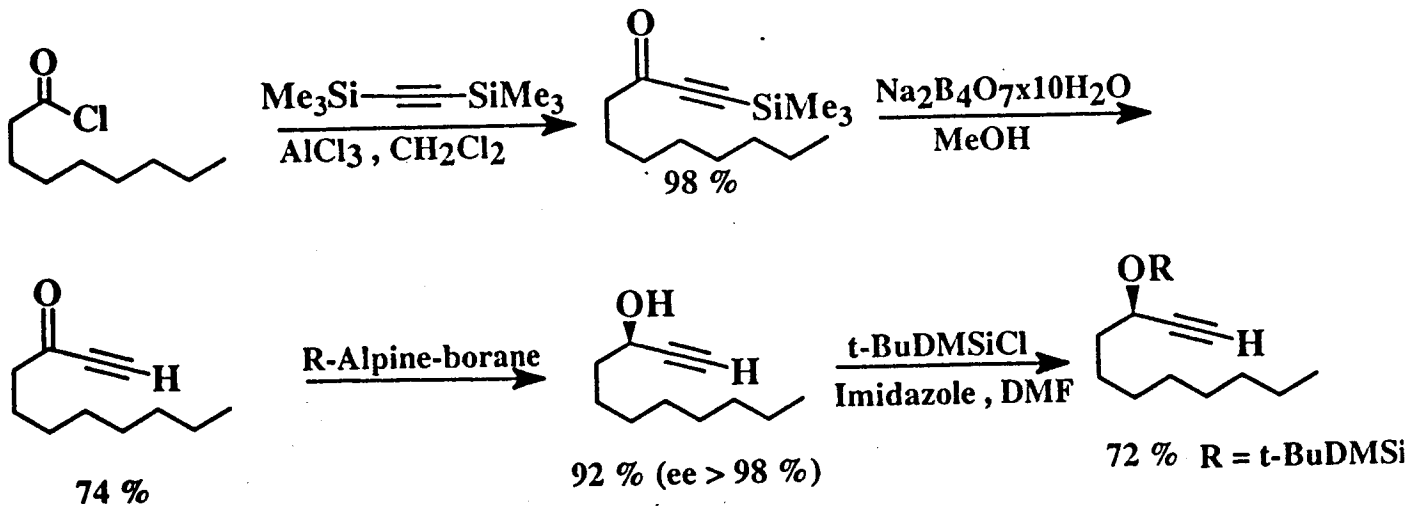
(6*E*)-LTB_3

J.Org. Chem. 1991, *56*, 6245.

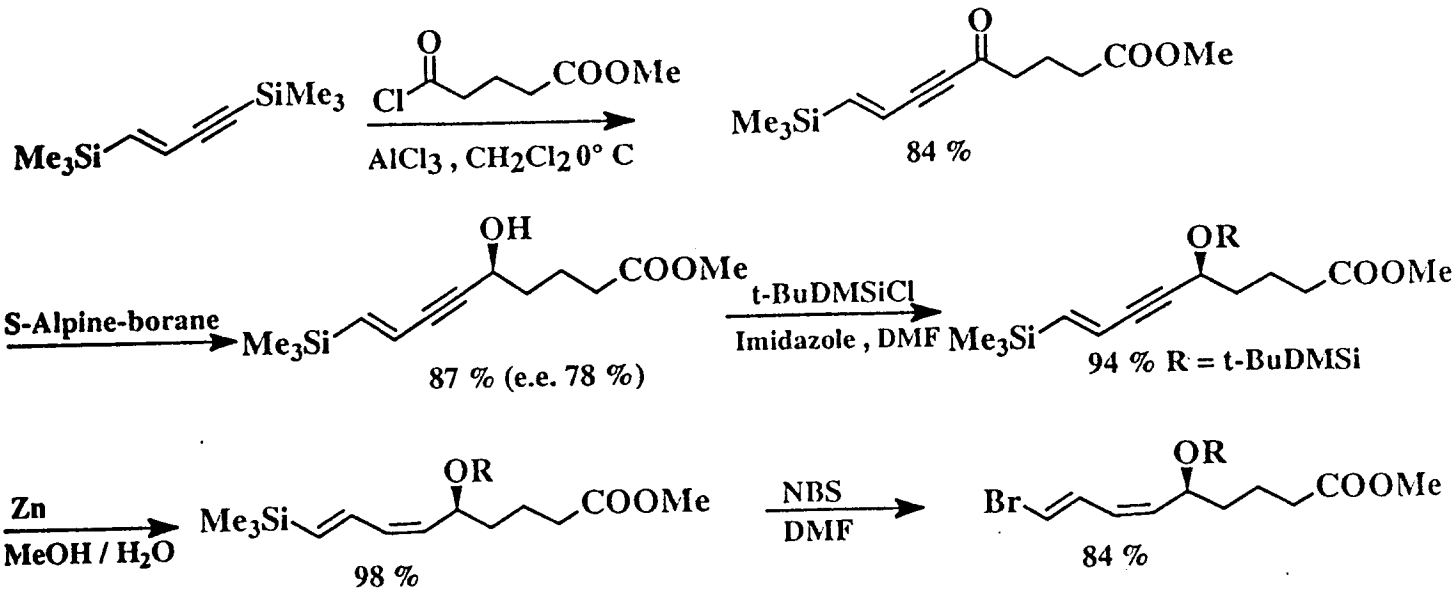
Retrosynthetic Analysis of Leukotriene B_3 methyl ester



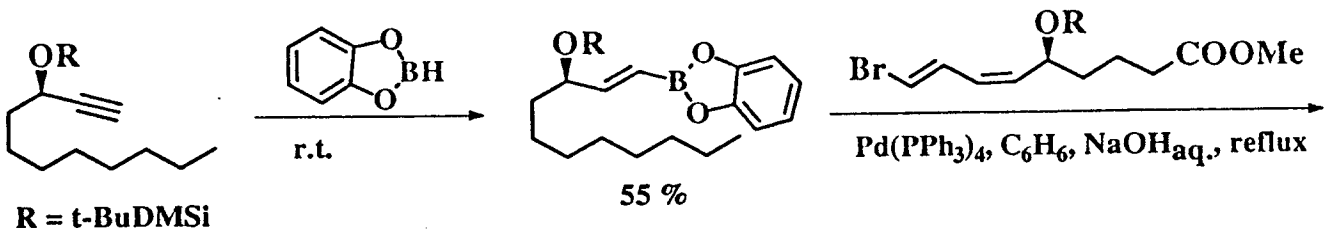
LTB_3 Ethynyl Intermediate

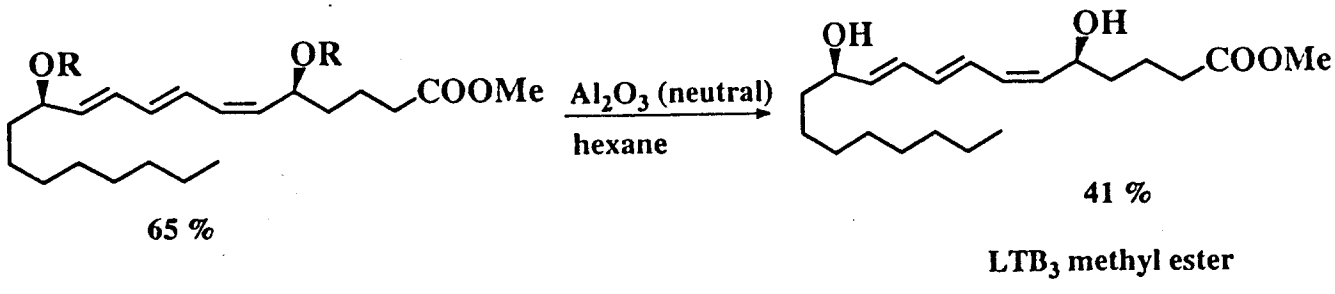


LTB_3 Dienyl Intermediate

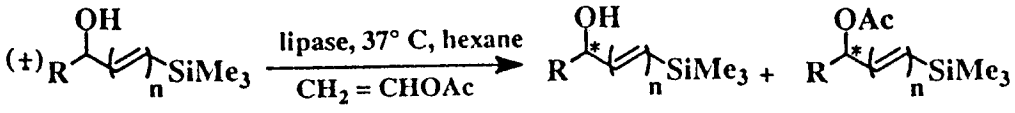


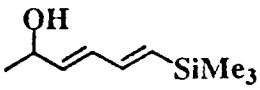
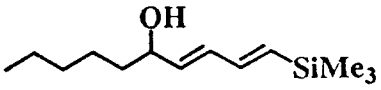
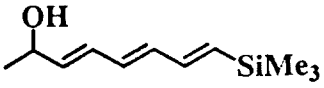
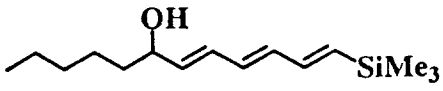
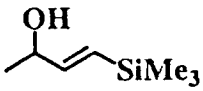
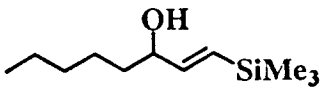
Synthesis of LTB_3 Methyl Ester





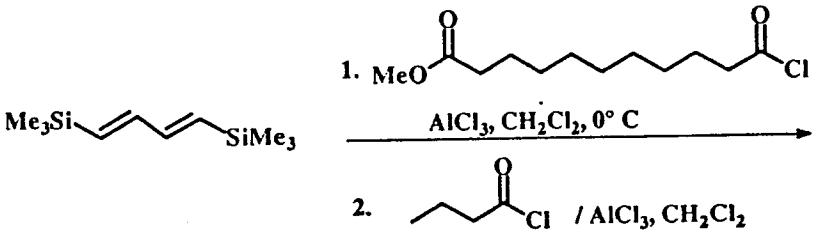
Biocatalytic Kinetic Resolution of Unsaturated Alcohols

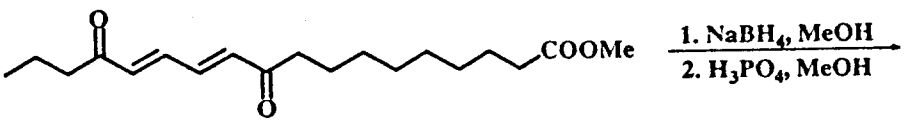


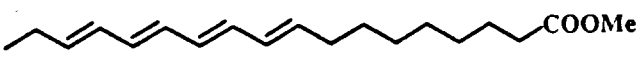
	e.e. %	e.e. %
	> 97	>97
	74	>97
	>97	>97
	18	92
	>97	>97
	85	>97

Synlett 1993, 491.

β–Parinaric Acid Methyl Ester Synthesis





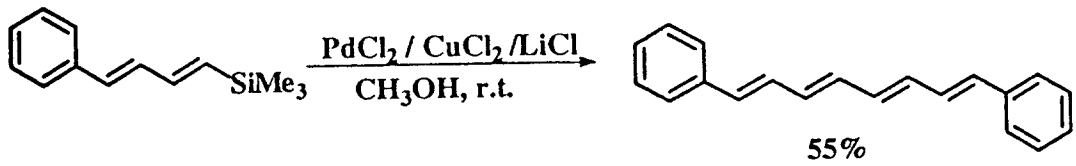


(52%)

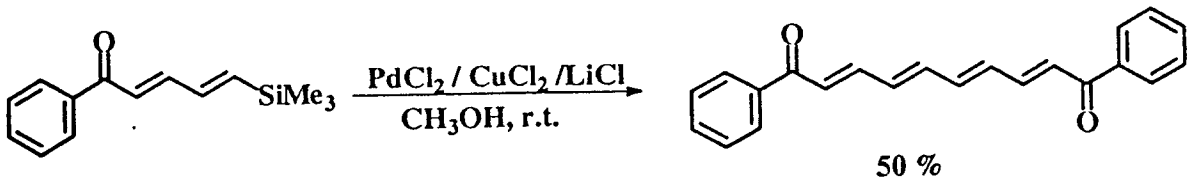
β-Parinaric acid methyl ester

Synlett 1992, 221.

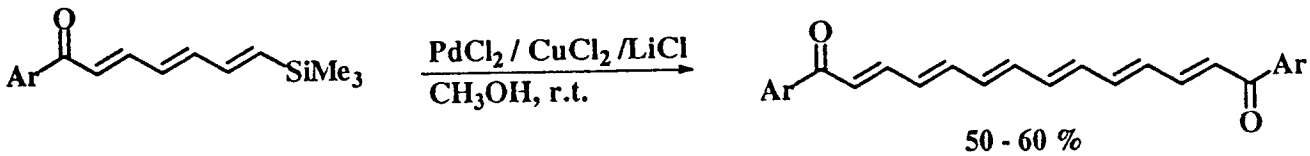
Self-coupling Reaction of Polyenylsilanes



55%

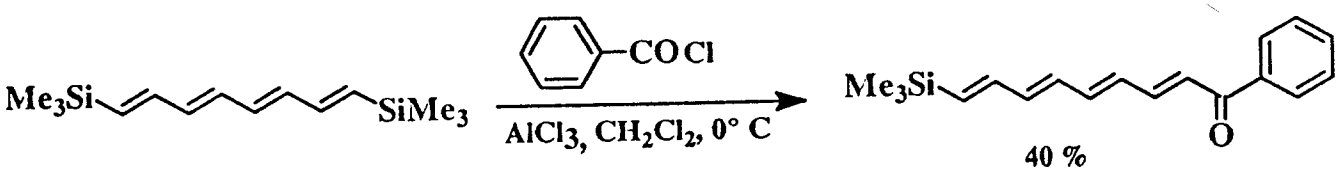


50 %

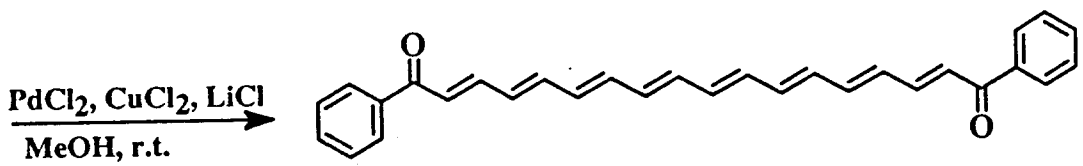


50 - 60 %

Ar = Ph, $PhCH_2$, *p*-$CH_3C_6H_4CH_2$, *p*-(*n*-$C_{10}H_{21}$)$C_6H_4CH_2$

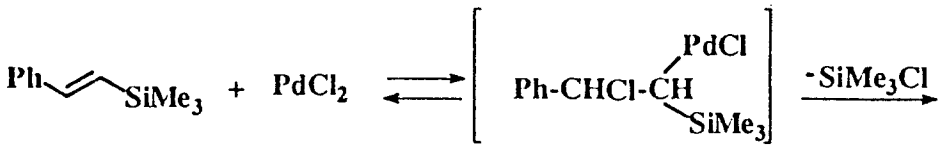


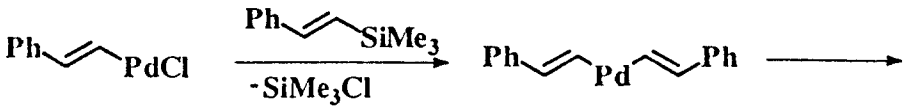
40 %

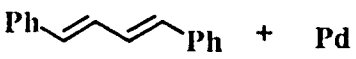


60 %

Mechanism of the Self-coupling Reaction of Vinylsilanes

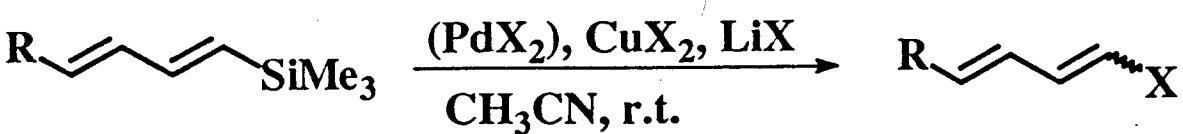






W. P. Weber, R. A. Felix, A. K. Willard, K. E. Koenig *Tetrahedron Lett.* 1971, 4701.

Halogenation Reaction of Dienylsilanes

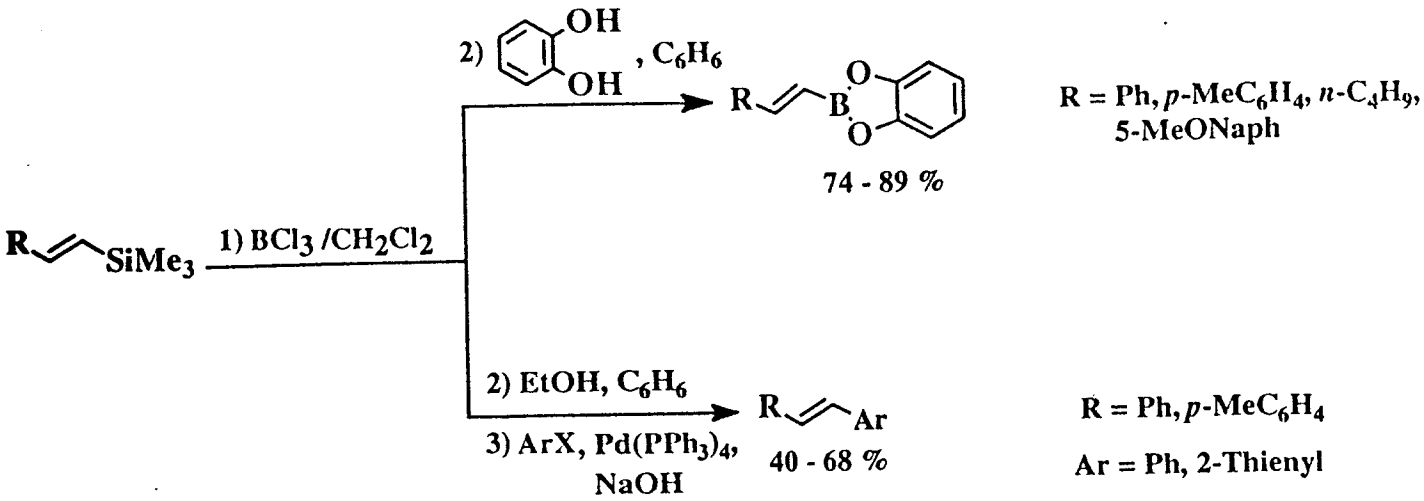


59 - 76 %

R = PhCO, Ph

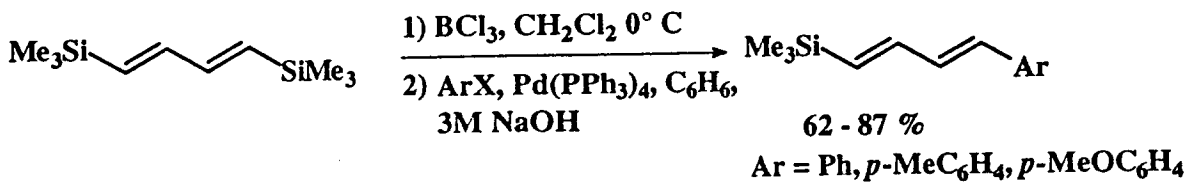
(*E*/*Z* = 1)

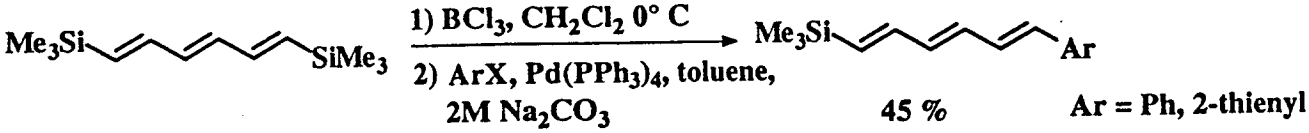
Unsaturated Boroderivatives from Vinylsilanes



J. Chem. Soc., Chem. Commun. 1995, 2524

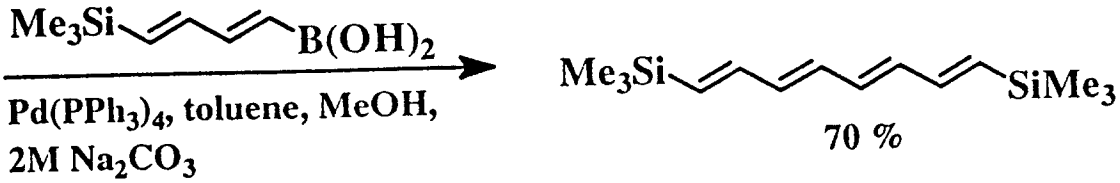
Cross-coupling Reactions of Polyenylsilanes *via* Boron Derivatives





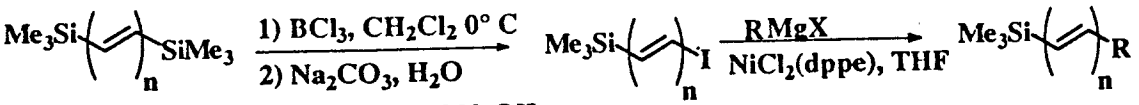
Synthesis of (1*E*,3*E*,5*E*,7*E*)-1,8-bis(Trimethylsilyl)-1,3,5,7-octatetraene

55 %



70 %

Polyenes *via* the Formal Suzuki-Miyaura Cross-coupling Reaction

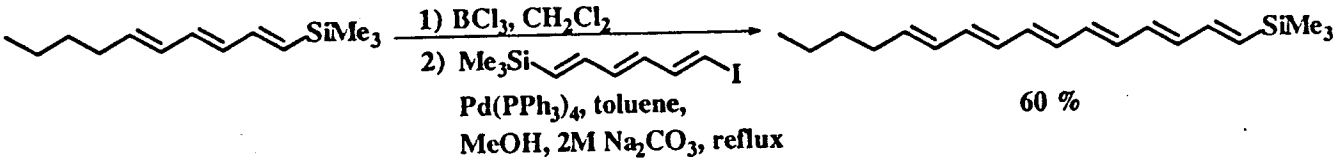


n = 2
n = 3

70 % n = 2
72 % n = 3

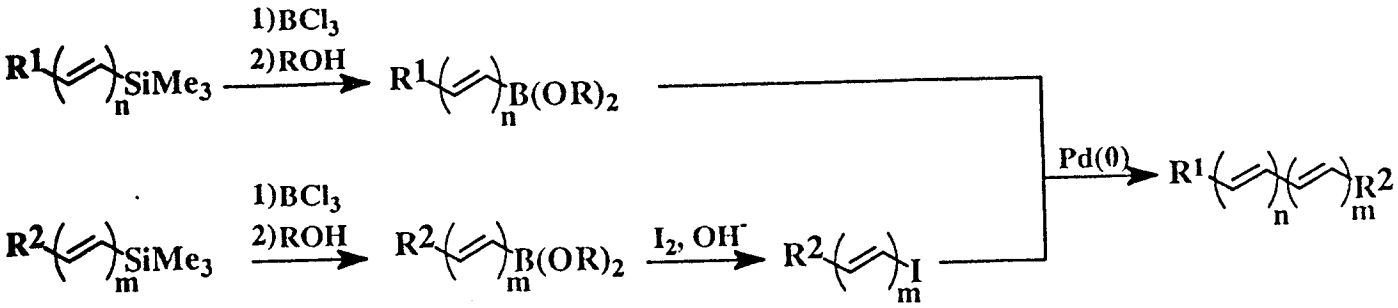
85 %

R = *n*-C_4H_9, *n*-$C_{10}H_{21}$, Cyclohexyl

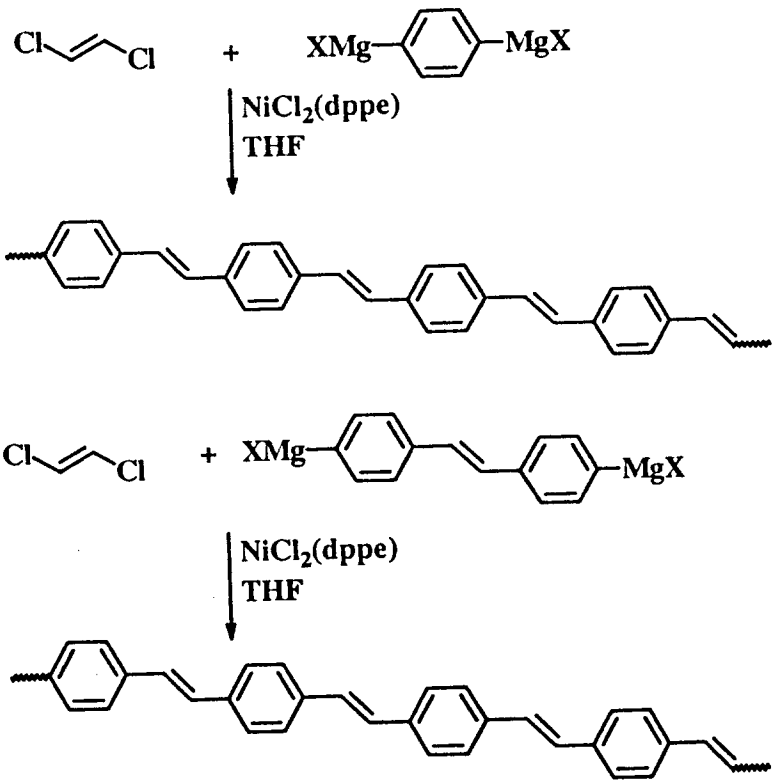


60 %

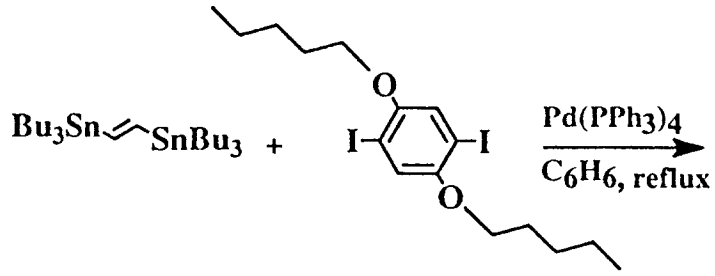
The (n+m) Strategy for the Synthesis of Conjugated Polyenes

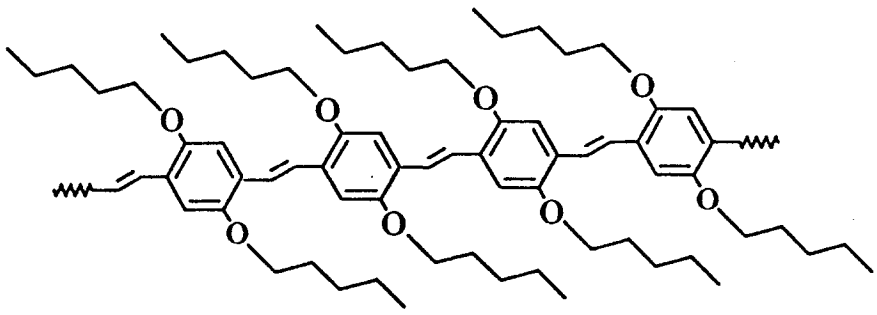


Synthesis of Insoluble PPV



Synthesis of Soluble Poly-*p*(phenylene vinylene)

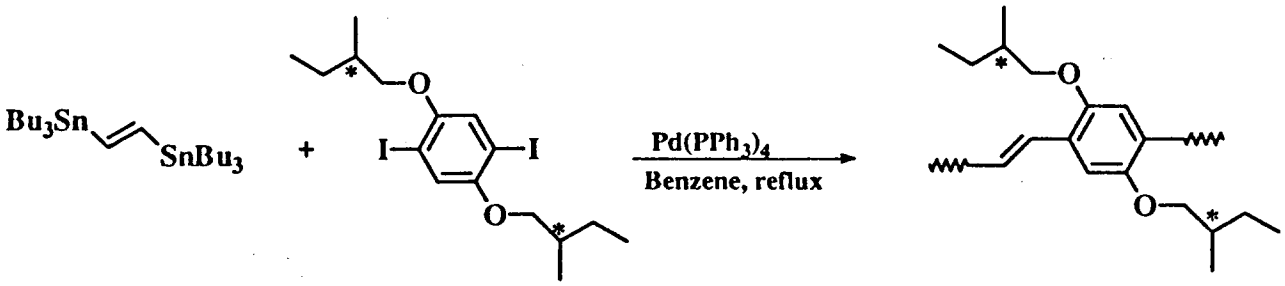




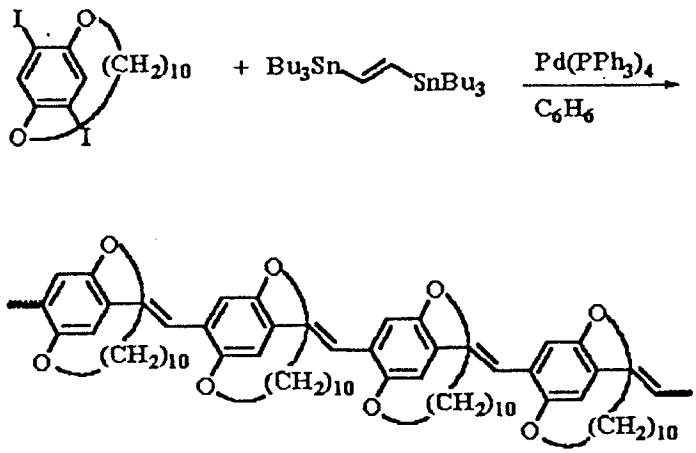
70 %

Makromolecular Chem., Rapid Commun. in press.

Synthesis of a Chiral Soluble PPV



A PPV with a Paracyclophane Structure



A PPV with Silyloxy Substituents