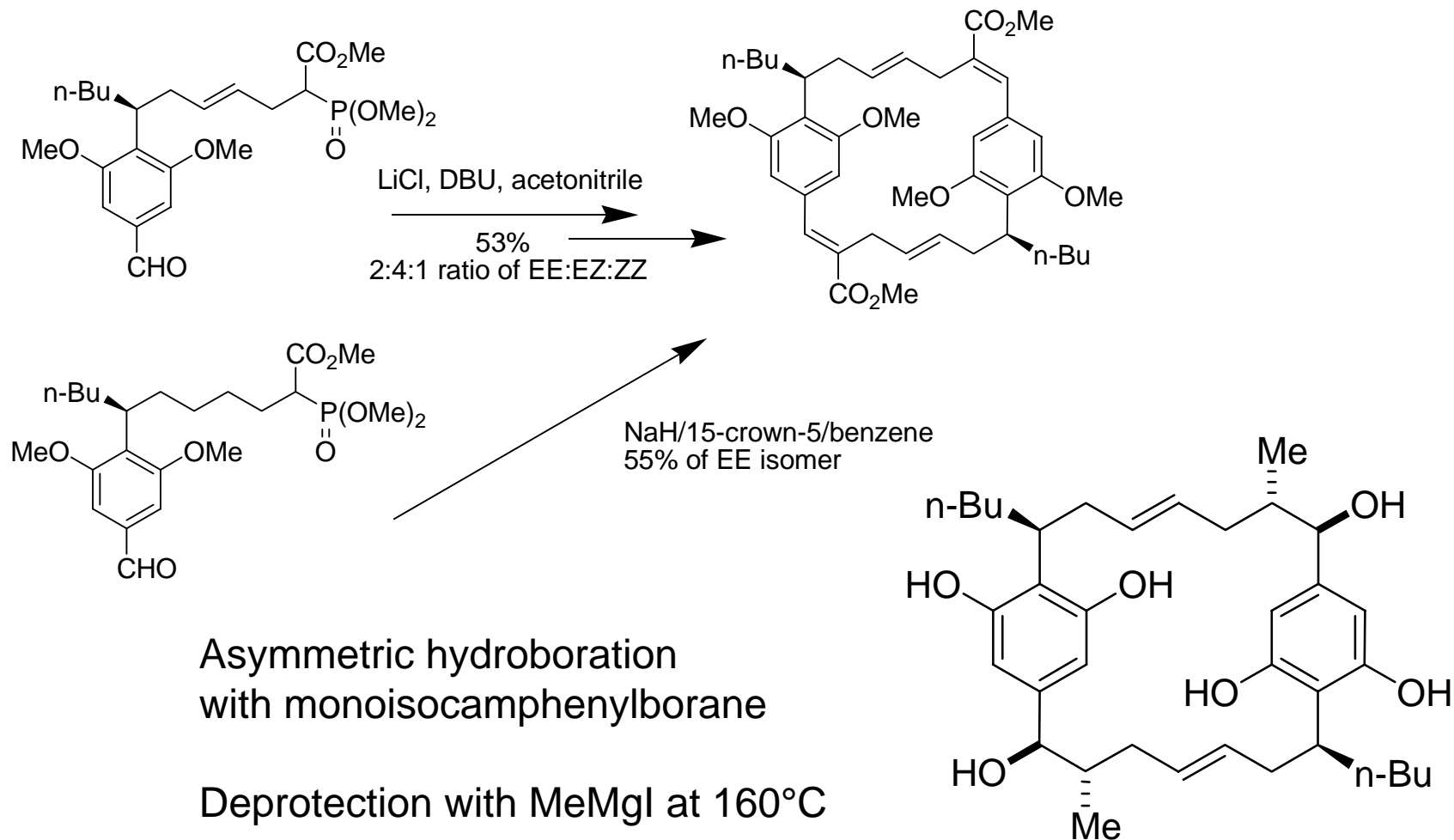


THE YEAR 2000 JACS

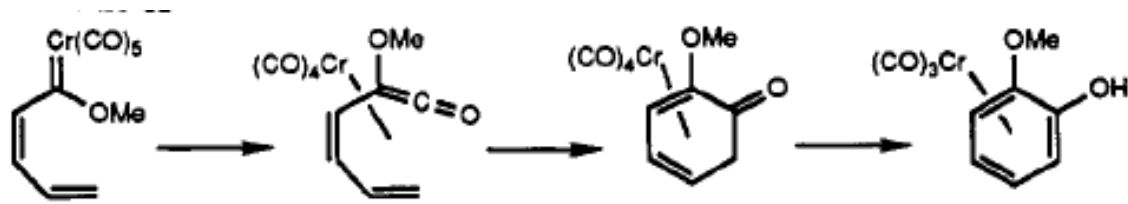
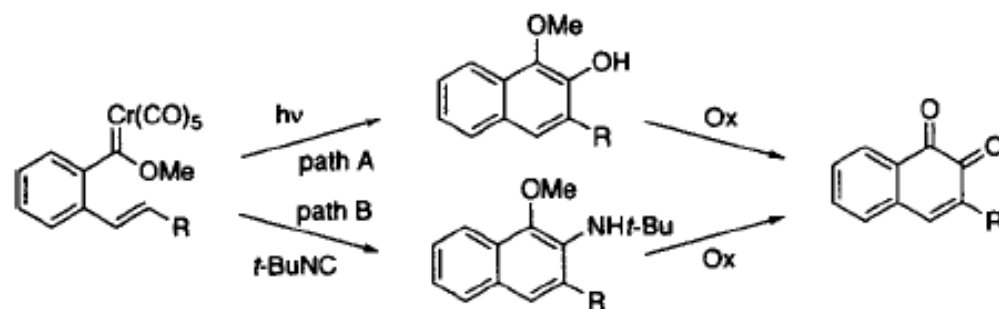
A New Era

(-)-Cylindrocyclophane A

p. 4982

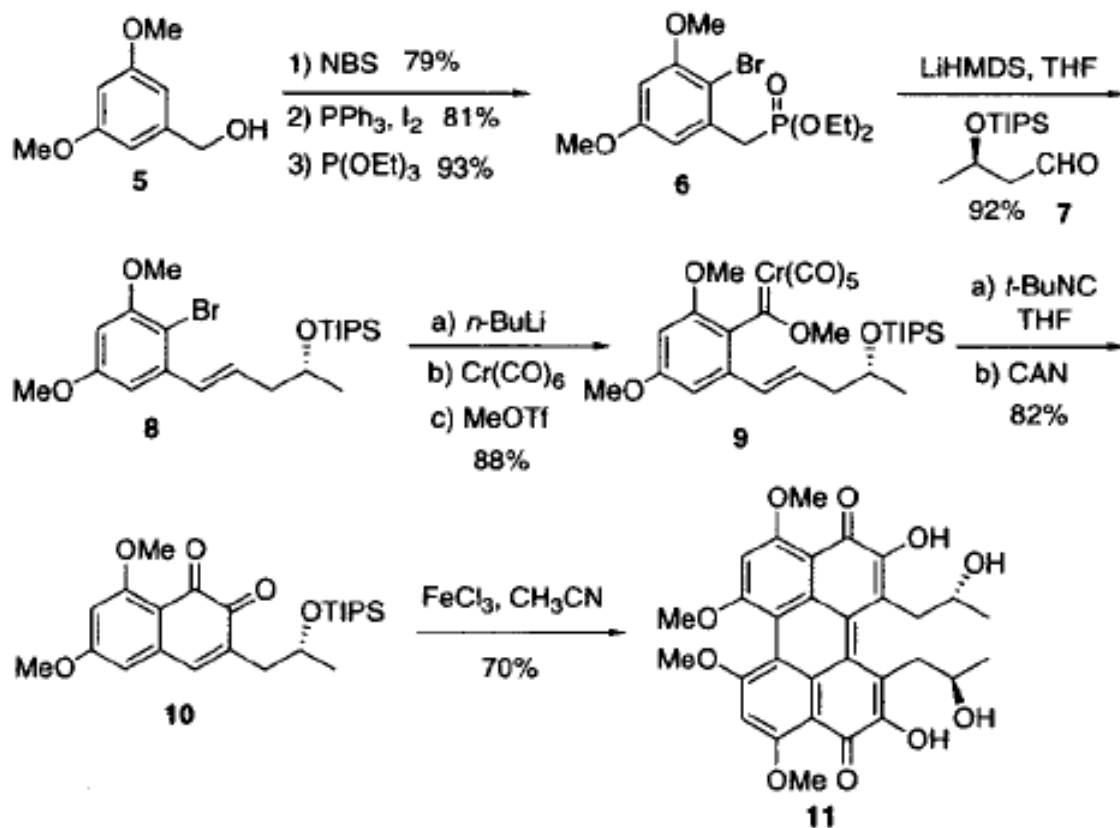


o-naphthoquinone formation to make a natural product



Total Synthesis of Calphostins

p. 3224



Facile Enantioselective Synthesis of Propargylic Alcohols by Direct Addition of Terminal Alkynes to Aldehydes

p. 1806

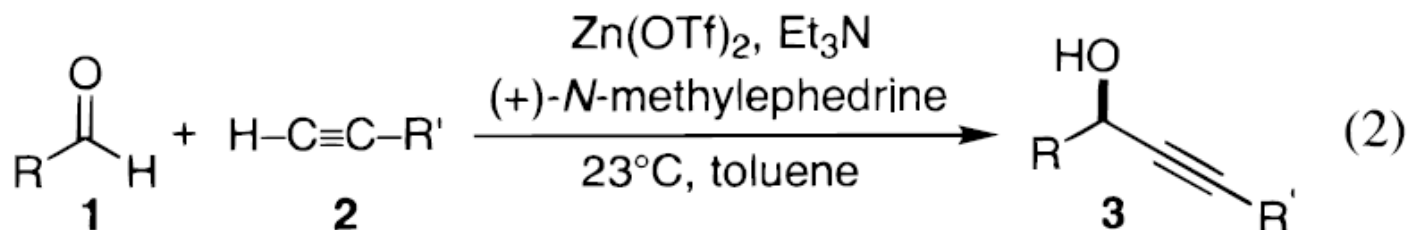





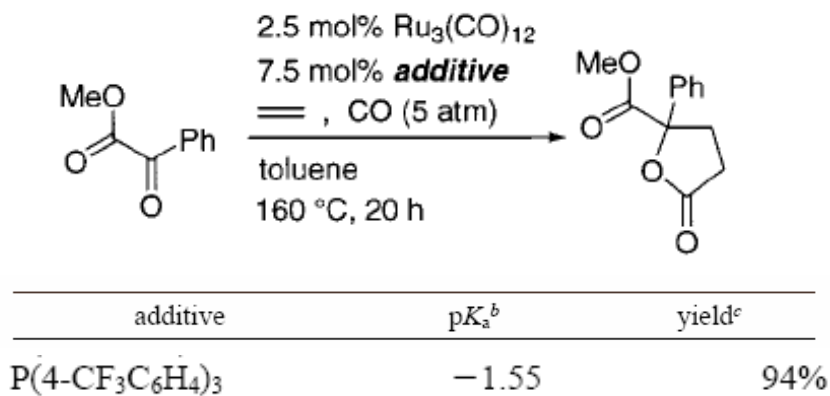
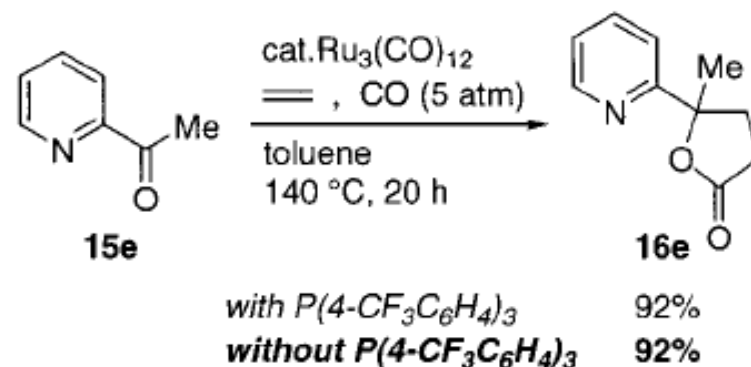
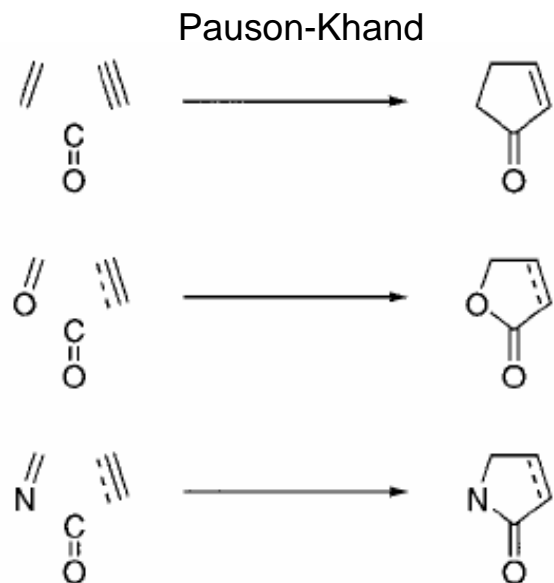
Table 1. Enantioselective Additions of RC≡CH to Aldehydes^a

Entry	Aldehyde	Alkyne	Time	Yield	ee ^{b,c}
1	<i>n</i> -C ₆ H ₁₁	Ph	1h	99%	96%
2		Ph(CH ₂) ₂	4h	98%	99% ^d
3	<i>iso</i> -Pr	Ph(CH ₂) ₂	2h	90%	99%
4		Ph	2h	95%	90%
5	PhCH=CH	Ph(CH ₂) ₂	20h	39%	80%
6	<i>tert</i> -Bu	Ph(CH ₂) ₂	2h	84%	99%
7		Ph	2h	99%	94%
8	Ph	Ph(CH ₂) ₂	20h	52%	96%
9		Ph	20h	53%	94%
10	<i>n</i> -C ₇ H ₁₁	Me ₃ Si	2h	93%	98%
11	Me ₃ CCH ₂	Ph(CH ₂) ₂	2h	72%	99%
12		Ph	2h	90%	97%
13	<i>n</i> -C ₆ H ₁₁	Me ₃ SiCH ₂	4h	84%	98%
14		TBDMSOCH ₂	5h	83%	98%
15			8h	90%	98%
16			3h	94%	98%
17	<i>iso</i> -Pr		4h	97%	98%

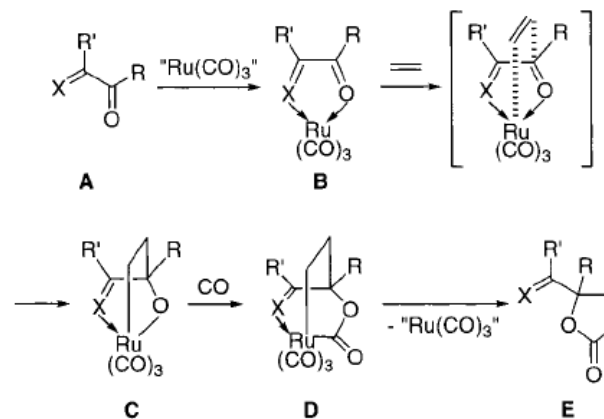
^a The addition reaction was conducted using 1.1 equiv Zn(OTf)₂, 1.2 equiv (+)-*N*-methylephedrine, and 1.2 equiv Et₃N in toluene (0.3 M) at 23 °C. ^b Absolute configuration of the products was established by correlation with known compounds or by analogy.^{2a,3b,4} ^c When (-)-*N*-methylephedrine was used as the ligand, the opposite enantiomer was isolated in comparable yield and ee.

Cyclocoupling of Ketones, Alkenes or Alkynes, and Carbon Monoxide

p. 12663

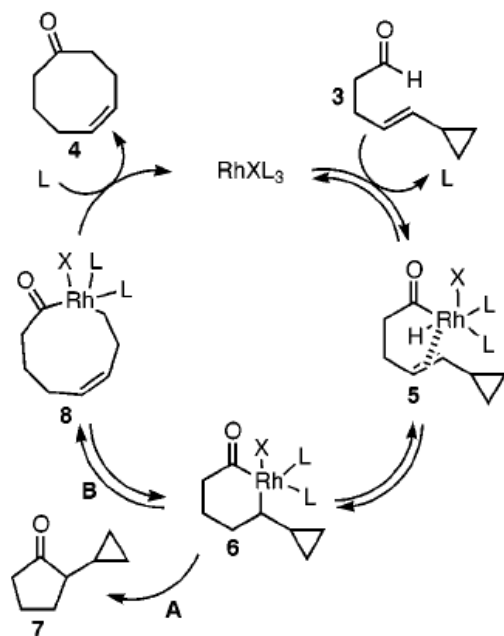
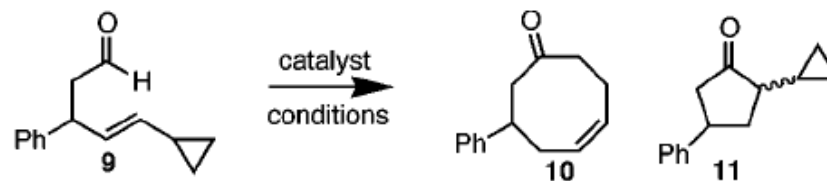
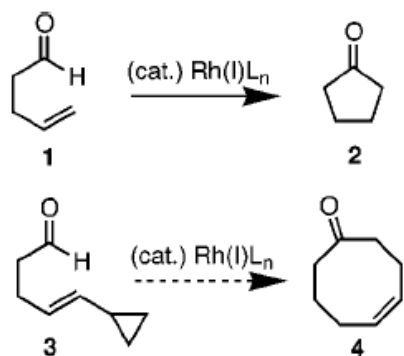


Scheme 4. A Possible Mechanism



Synthesis of Cyclooctenones Using Intramolecular Hydroacylation

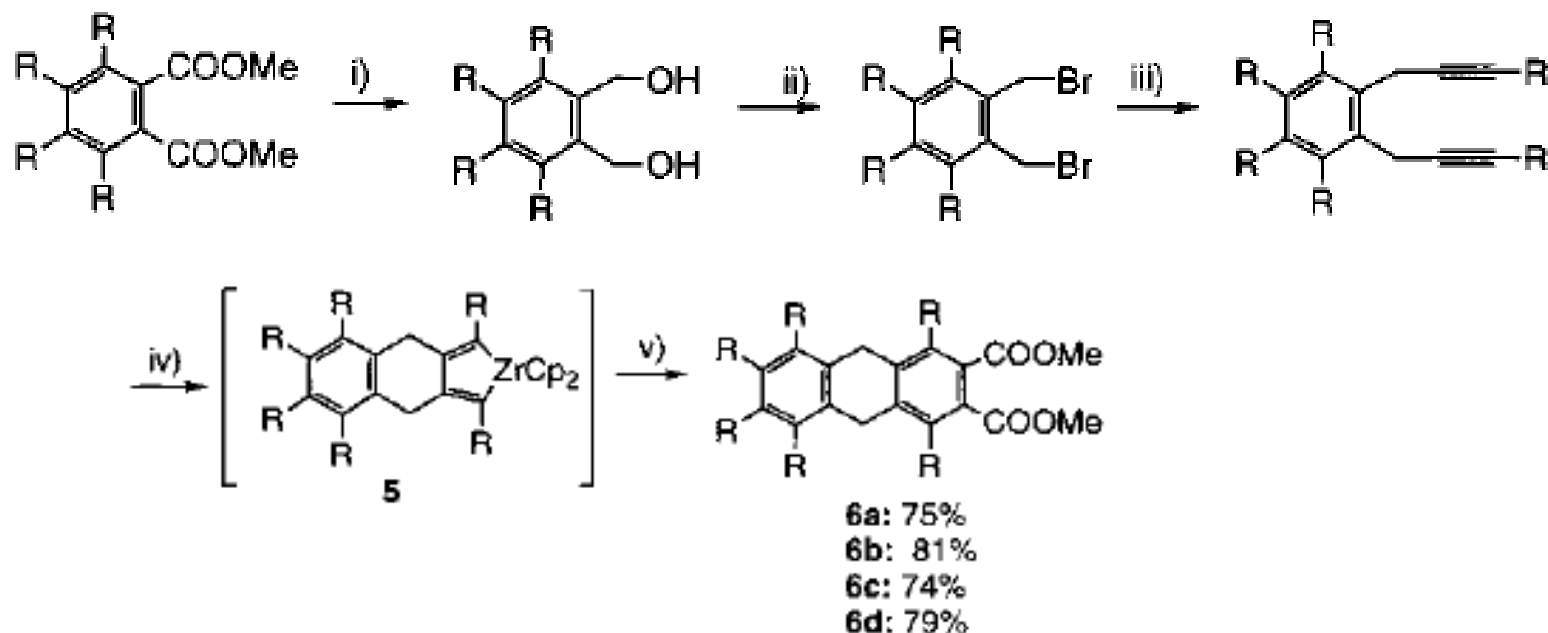
p. 12610



Entry	Catalyst	Conditions	Isolated Yields	
1	$\text{RhCl}(\text{Ph}_3\text{P})_3$	$\text{PhCH}_3, 165^\circ\text{C}$	0%	0%
2	$\text{RhCl}(\text{Ph}_3\text{P})_3$	$\text{THF}, 100^\circ\text{C}$ 2-amino-3-picoline	7%	44%
3	$[\text{Rh}(\text{dppe})]\text{ClO}_4$ (40 mol%)	$\text{Cl}(\text{CH}_2)_2\text{Cl}, 83^\circ\text{C}$	47%	5%
4	$[\text{Rh}(\text{dppe})]\text{OTf}$ (20 mol%)	$\text{Cl}(\text{CH}_2)_2\text{Cl}, 65^\circ\text{C}$	50%	0%
5	$[\text{Rh}(\text{dppe})]\text{ClO}_4$ (20 mol%)	$\text{Cl}(\text{CH}_2)_2\text{Cl}, 65^\circ\text{C}$	40%	0%
6	$[\text{Rh}(\text{dppe})]\text{ClO}_4$ (5 mol%)	$\text{Cl}(\text{CH}_2)_2\text{Cl}, 65^\circ\text{C}$ ethylene	23%	0%
7	$[\text{Rh}(\text{dppe})]\text{ClO}_4$ (20 mol%)	$\text{Cl}(\text{CH}_2)_2\text{Cl}, 65^\circ\text{C}$ ethylene	65%	0%

Synthesis of Highly Alkyl-Substituted Naphthacene and Pentacene

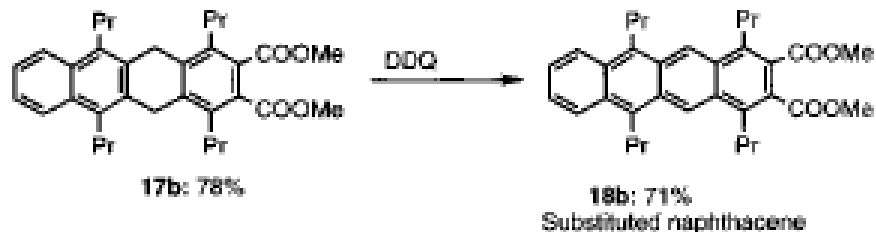
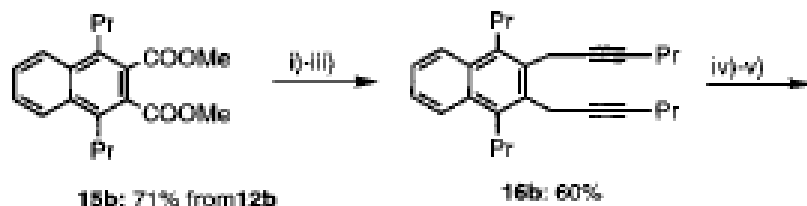
p. 12876



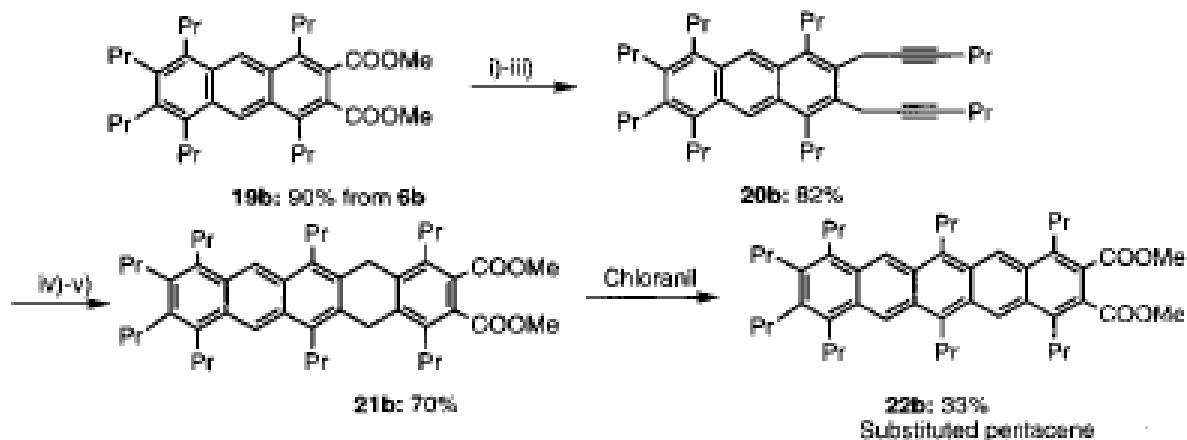
i) LiAlH_4 ii) PBr_3 iii) $2\text{eq Li}-\text{C}\equiv\text{C}-\text{R}$ iv) Cp_2ZrBu_2
 v) $\text{MeOOC}-\text{C}\equiv\text{C}-\text{COOMe}$, 2eq. CuCl

Substituted Linear Acenes

Naphthacene formation

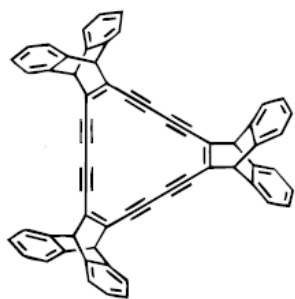


Pentacene formation

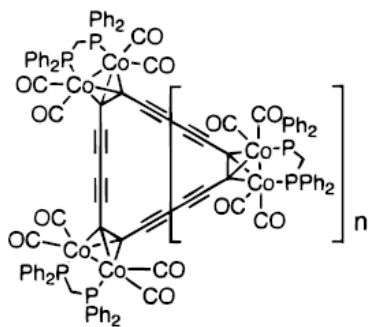


Another Attempt at a Cyclo[n]carbon Synthesis

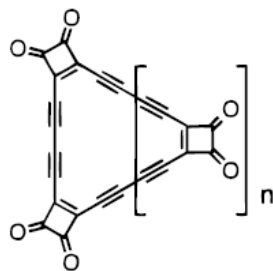
p. 1762



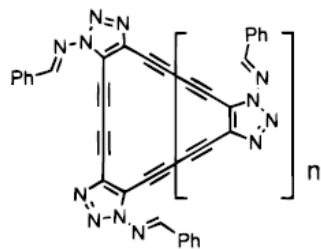
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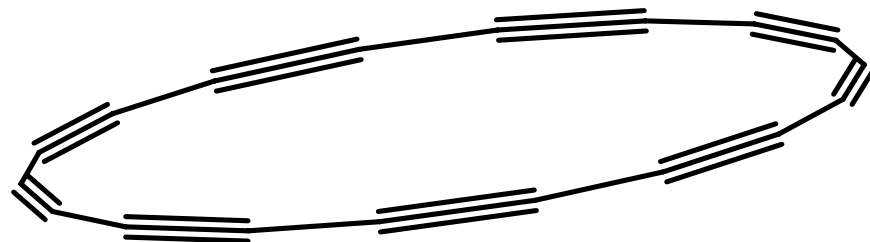
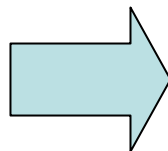
2 n = 1
3 n = 2



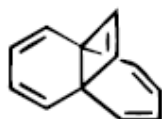
4 n = 1
5 n = 2
6 n = 3



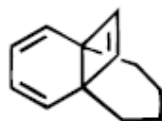
7 n = 1
8 n = 2
9 n = 3



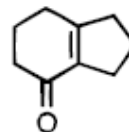
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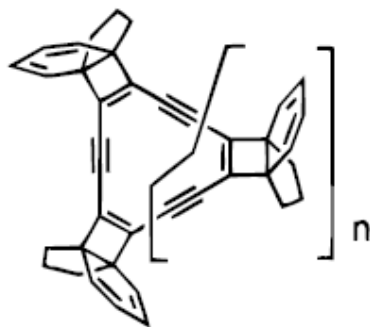
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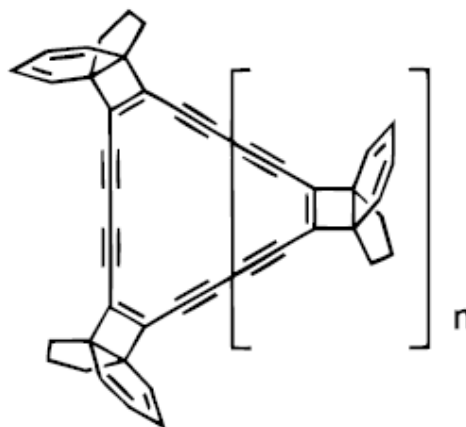
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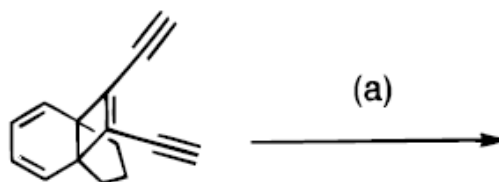
12 $n = 1$
13 $n = 2$
14 $n = 3$



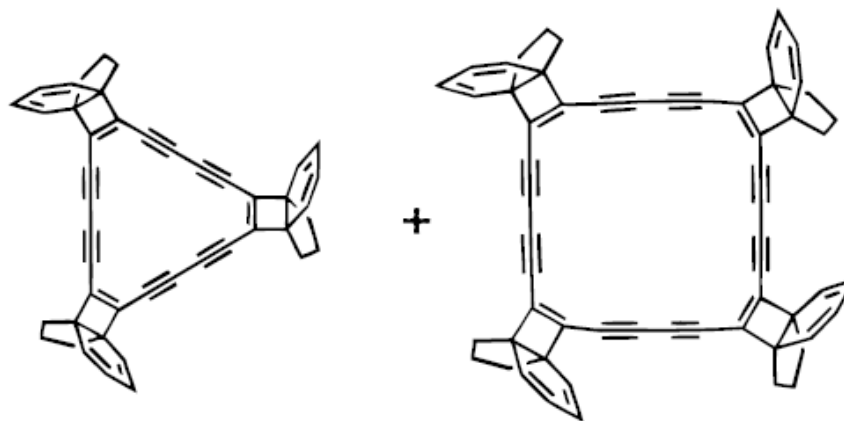
15 $n = 1$
16 $n = 2$

Continued

Scheme 5. (a) $\text{Cu}(\text{OAc})_2$, Pyridine or $\text{Cu}(\text{OAc})_2$, CuCl , Pyridine



17c



15

16