



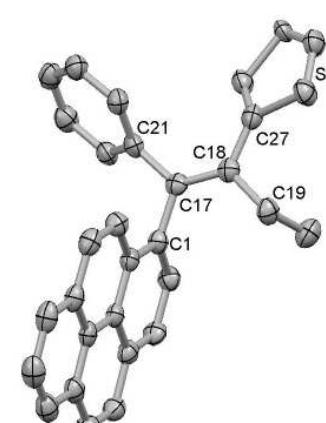
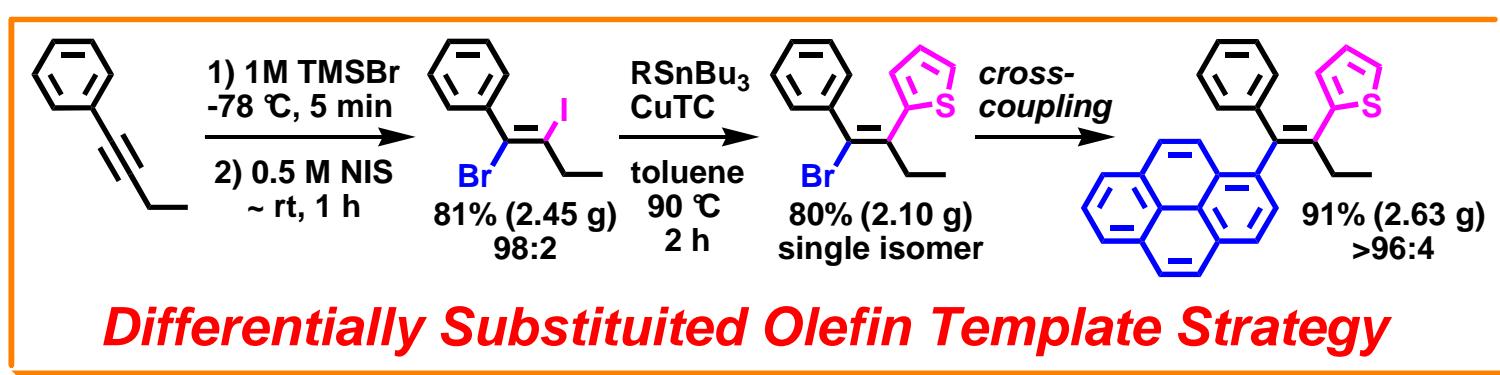
# Differentially Substituted Olefin Template Strategy for Synthesis of Tetrasubstituted Alkenes from (*E*)-1-bromo-2-iodoalkenes



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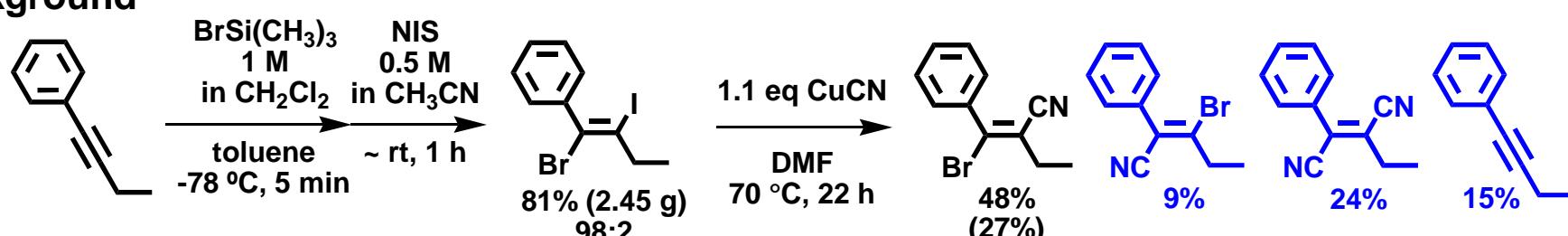
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## 1. Summary Endo, N.; Iwasawa, T. *Tetrahedron* 2017, 73, 5833-5840.



### Differentially Substituted Olefin Template Strategy

## 2. Background



1) Ide, M.; Yauchi, Y.; Shiogai, R.; Iwasawa, T. *Tetrahedron* 2014, 70, 8532; 2) Endo, N.; Kanaura, M.; Iwasawa, T. *Tetrahedron Lett.* 2016, 57, 483-486.

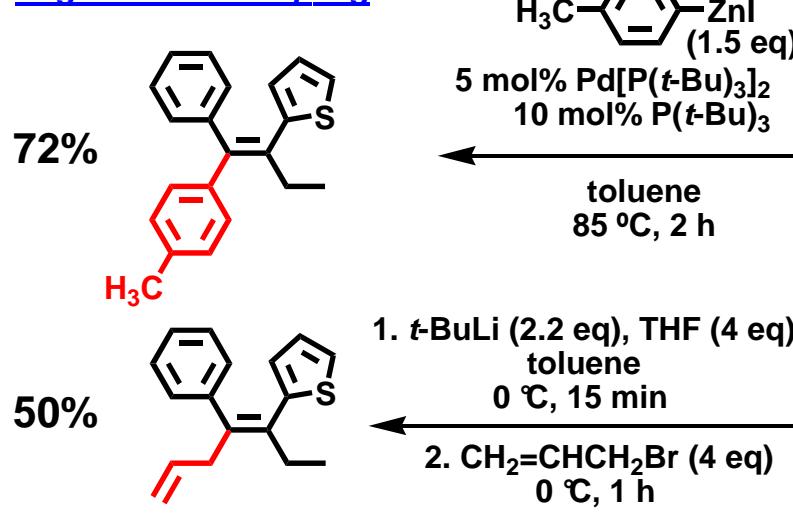
## 3. Substrate Scope

Ar	R	temp./°C	time/h	%Yield		
				1	2	3
		90	2	80 (2.1 g)	trace	0
		85	23	65	11	trace
		90	17	61	11	0
Each 3 equiv of CuTC, tin, and PPh <sub>3</sub>						
		90	11	60	17	0
		90	23	25 (95% purity)	21	14

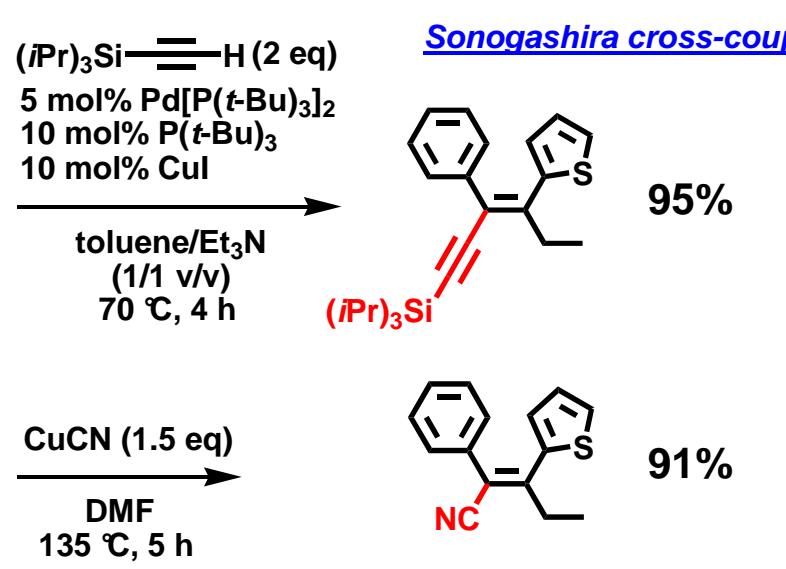
R	temp./°C	time/h	%Yield		
			1	2	3
	90	2	80 (2.1 g)	trace	0
	90	2	75	3	6
	110	20	51	10	4
	90	11	<10	-	-
	90	23	0	-	-

## 4. Syntheses of differentially all-carbon tetrasubstituted olefins

### Negishi cross-coupling



### Sonogashira cross-coupling



### Lithium-halogen exchange

### Rosenmund-von Braun cyanation