



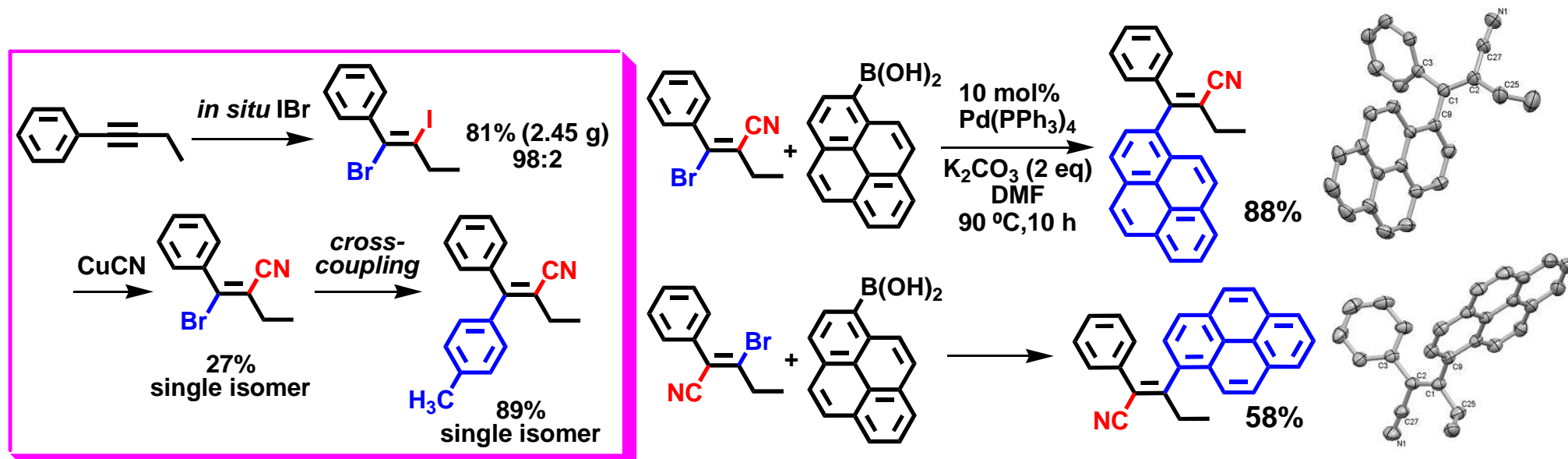
# Elucidation of reaction process through beta-halogen elimination in CuCN-mediated cyanation of (*E*)-1-bromo-2-iodoalkene.

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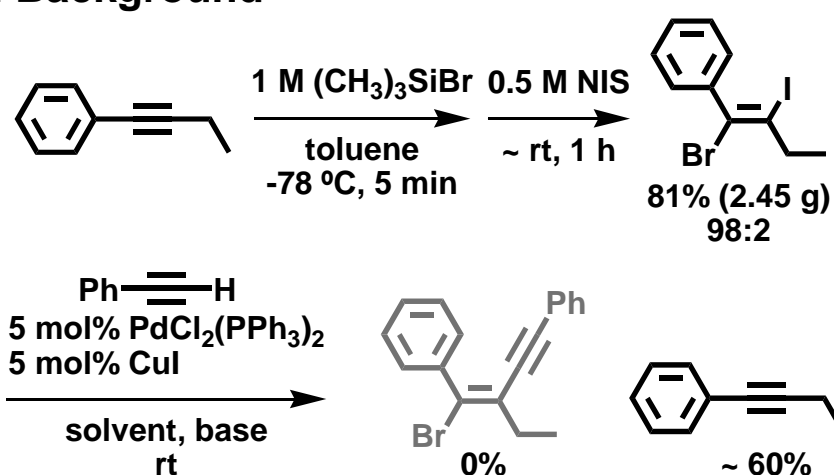
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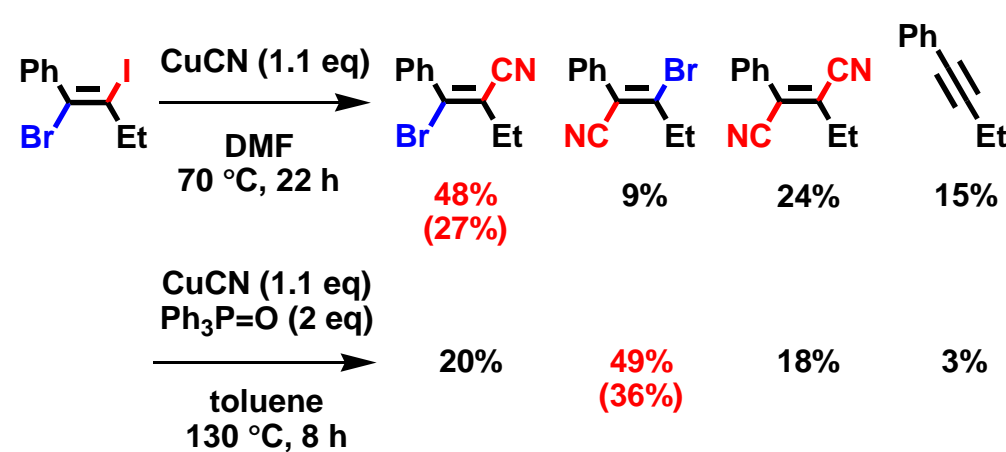
## 1. Summary Endo, N.; Kanaura, M.; Iwasawa, T. *Tetrahedron Lett.* 2016, 57, 483-486.



## 2. Background



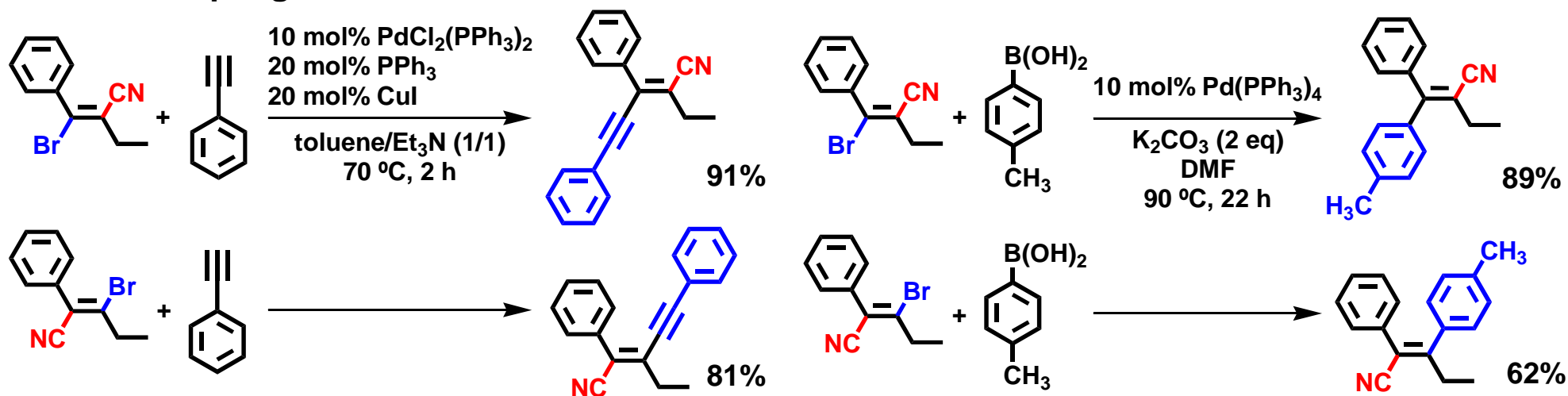
## 3. In real



1. Ide, M.; Yauchi, Y.; Iwasawa, T. *Eur. J. Org. Chem.* 2014, 3262.

2. Ide, M.; Yauchi, Y.; Shiogai, R.; Iwasawa, T. *Tetrahedron* 2014, 70, 8532.

## 4. Cross-coupling



## 5. Temperature

Reaction scheme for temperature study showing the competition between products 1-5. The reaction is run in DMF with CuCN (1.1 eq) and Ph<sub>3</sub>P=O (2 eq). The products are: 1 (desired product), 2 (bromo-cyano product), 3 (cyano-cyano product), 4 (bromo-cyano product), and 5 (starting material).

Temp. (°C)	Time (h)	NMR Yield (%)				
		1	2	3	4	5
rt	74	82	2	0	0	2
50	22	74	9	0	0	7
70	22	0	48	9	24	15
90	5	0	40	18	26	16
130	1	0	32	26	24	5

## 6. Plausible reaction paths

