1. 



$\xrightarrow{-\mathrm{SO}_{2}}$



$\mathrm{Cu}^{1}$





$\xrightarrow{\text { reflux }}$




1

Keys to the Problems (04/06/2016)


Route II



Fukuyama Group - Group Meeting Problems
1.



2.


$\longrightarrow \mathrm{ErO}^{\mathrm{g}} \mathrm{EB}^{\mathrm{B}}$

3








$\xrightarrow[\text { Ene reaction }]{ }$

$\equiv$


$[3,3]$
sigmatropic
$\xrightarrow{\text { rearrangement }}$ $\pm H^{\oplus}$


$\xrightarrow[ \pm H^{\oplus}]{ }$






$3 \underset{I}{ }+\underset{I}{ } \rightarrow 2 I^{\circ}$







