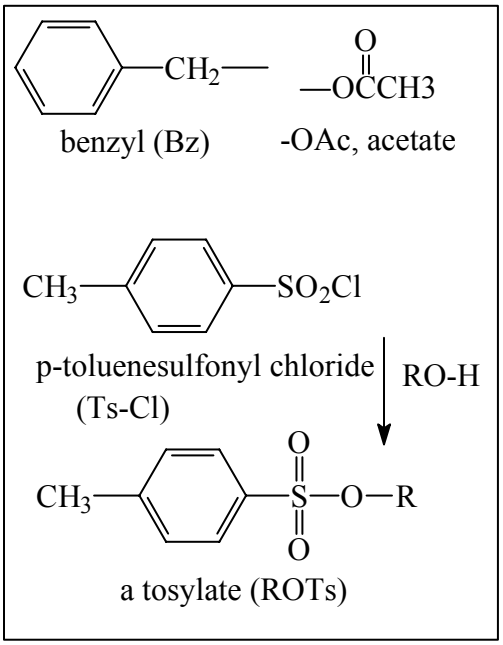
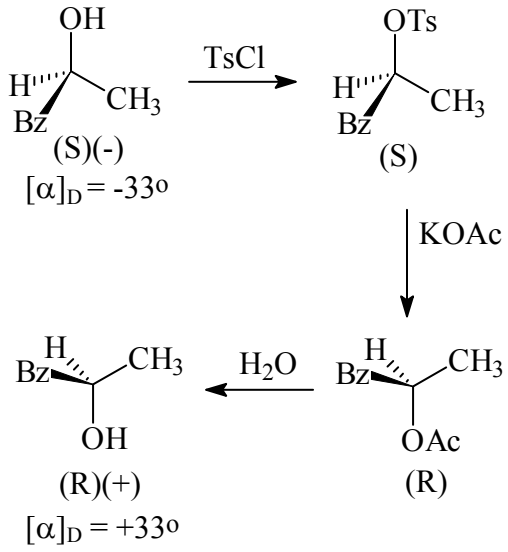
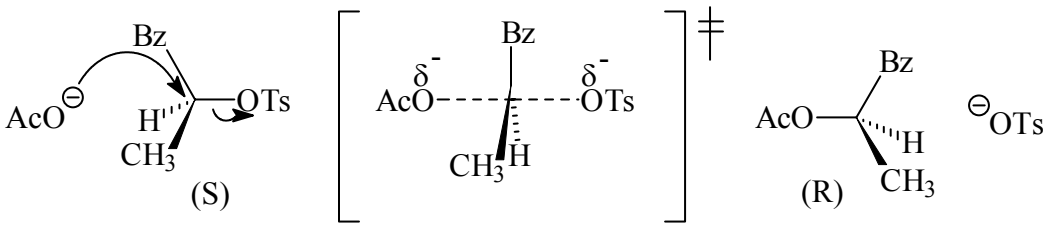
Proof of Inversion of Configuration at a Chiral Center
(Phillips and Kenyon)



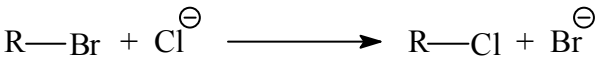




Rate = k [AcO^-][R-OTs]

Second order rate kinetics, hence **S_N2**

Since the energy of the transition state is significant in determining the rate of the reaction, a primary substrate will react more rapidly than secondary (than a tertiary)



Rate:	**~0**	**1**	**500**	**40,000**	**2x10⁶**
	$(CH_3)_3CBr$	$(CH_3)_3CCH_2Br$	$(CH_3)CHBr$	CH_3CH_2Br	CH_3Br
	3o	neopentyl	2o	1o	methyl