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ROOM TEMPERATURE FLUORINATION OF ORGANIC MOLECULES WITH CAESIUM FLUOROXYSULPHATE

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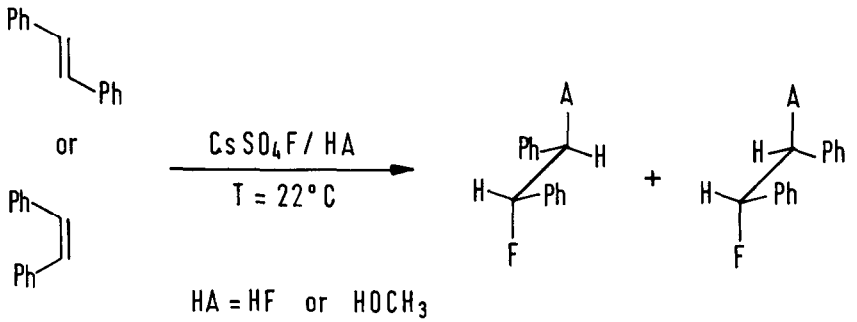
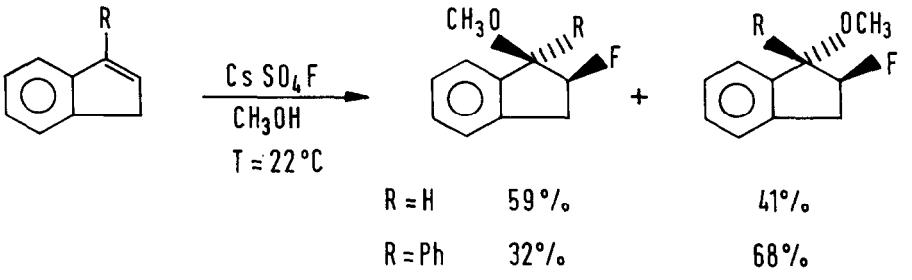
The choice of fluorinating agents for the introduction of fluorine into organic molecules at room temperature is limited. Recently it has been demonstrated that $CsSO_4F$ could be a convenient mild reagent. We have already shown that reactions with aromatic molecules and organic molecules containing heteroatoms with $CsSO_4F$ resulted in fluoro-substituted products.

We now report our results on further investigations of the effect of the structure of the olefin, solvent, and catalyst on the regio and stereospecificity of fluorine introduction into organic molecules. Reactions at room temperature in aprotic solvents with alkenes resulted in an addition-elimination process, while in the presence of various nucleophile-donating species, i.e. hydrogen fluoride, methanol, or acetic acid, the addition process predominates with nucleophile bonding according to Markownikov type regioselectivity.





R = H	59 %	41 %
R = Ph	32 %	68 %