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METHYL 2-N-TRIFLUOROACETYLIMINOTRIFLUOROPROPIONATE IN REACTIONS OF (2+4)-CYCLOADDITION

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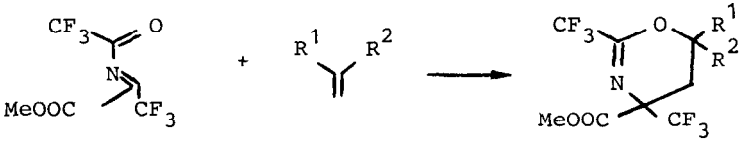
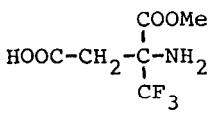
Trifluoroacetylimine of methyl trifluoropyruvate possesses distinct heterodiene properties. (I) reacts under a strong cooling with vinyl ethers and also with allylic and acrylic compounds at 20-50°C yielding selectively (2+4)-cycloadducts.



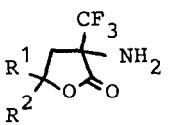
(I) (II-X)

R^1=H,R^2=OBu(II); R^1=H,R^2=OC(O)Me(III); R^1=R^2=Me(IY); R^1=H,R^2=Me(Y); R^1=H,R^2=CH_2Cl(YI); R^1=H,R^2=CH_2I(YII); R^1=H,R^2=CH_2OMe(YIII); R^1=Me, R^2=CH_2Cl(IX); R^1=Me,R^2=COOMe(X).

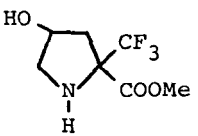
Cycloaddition of (I) to the ethylene compounds occurs regioselectively forming mainly one of the diastereomers. Compounds (II-X) are convenient synthons for synthesis of α-trifluoromethyl-α-aminoacids and their derivatives, i.e.



(XI)



(XII-XYII)



(XYIII)