An efficient protocol for the synthesis of α-Amino phosphonates: An impartment class of biologically active compounds

Nisar A Dangroo[1]*, Asif A Malik[2] , Tabassum Ara[3]

[1,2,3]*Department of chemistry, National Institute of Technology (NIT), Srinagar (India)*

ABSTRACT

The organic compounds of phosphorous and nitrogen like α-amino phosphonates are important class of pharmacologically active compounds and reported to exhibit a diverse range of biological activities such as anticancer, syntheses inhibitors, HIV protease inhibitors, rennin inhibitors, enzyme inhibitors and serve as surrogates of α-amino acids. Owing to their utility particularly in pharmacology, herein an eco-friendly and efficient three-component protocol was developed for the one-pot synthesis of α-amino phosphonates from aldehydes, amines and trialkyl phosphates at room temperature using H-form zeolites as heterogeneous catalyst. The method is general with wide substrate scope giving products in excellent yields under mild reaction condition. The catalyst exhibits an excellent catalytic performance with good recyclability. The reusability and simple work up procedure make the protocol more attractive and eco-friendly.