



[Et₃NH][HSO₄]-catalyzed one-pot, solvent-free synthesis and biological evaluation of α -amino phosphonates

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Abstract A series of dimethyl (phenyl(phenylamino)methyl)phosphonates and novel dimethyl ((phenylamino)(2-(prop-2-yn-1-yloxy)phenyl)methyl)phosphonates as potential antifungal agents were synthesized via one-pot, three-component condensation of aldehydes, amines and trimethyl phosphite in solvent-free conditions using [Et₃NH][HSO₄] as an efficient, eco-friendly and reusable catalyst. Compared to other methods, this new method consistently has advantages, including excellent yields, a short reaction time, mild reaction conditions and catalyst reusability. The newly synthesized propargylated ether containing α -amino phosphonates were evaluated for antifungal and antioxidant activity and were also analyzed for absorption, distribution, metabolism and excretion (ADME) properties.

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