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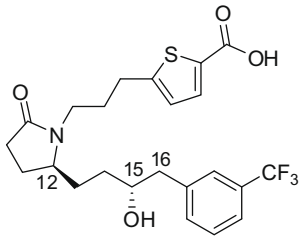
Contents

COMMUNICATIONS



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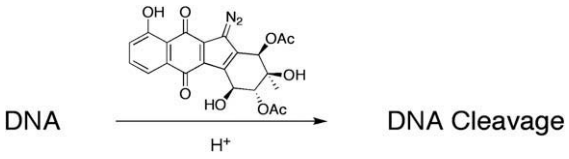
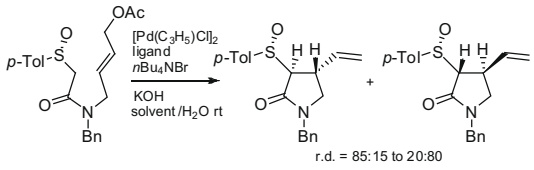
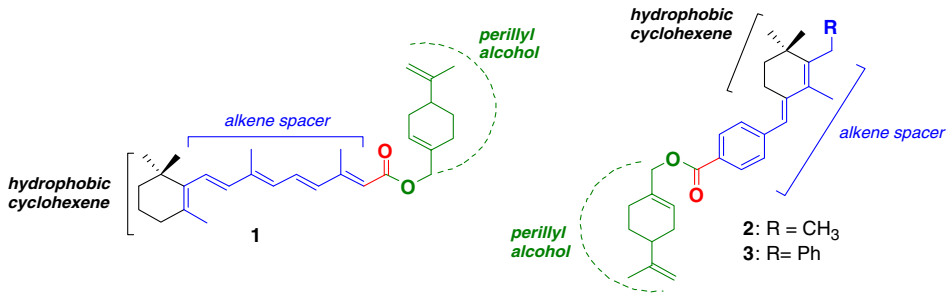
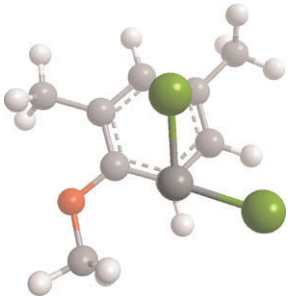
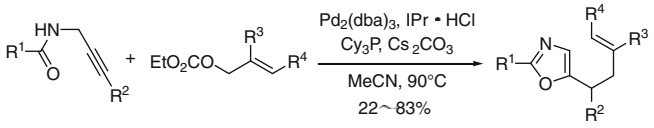


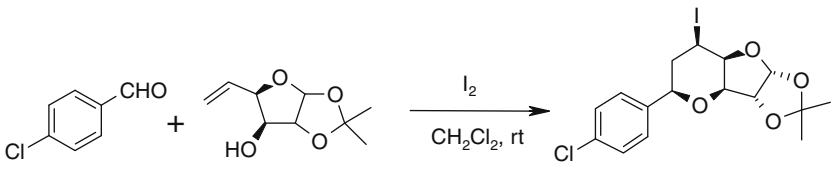


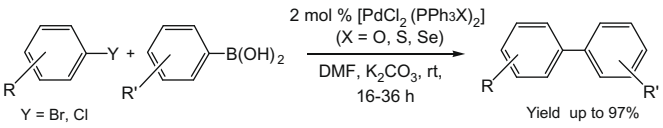




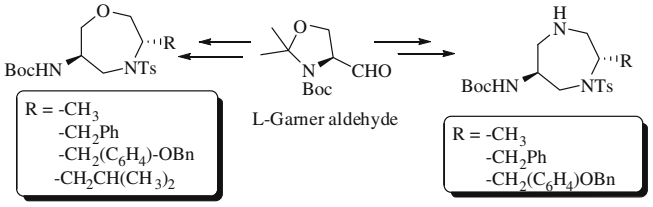
Dichlorocarbene generated by laser flash photolysis of dichlorodiazirine readily forms UV–vis active π- and *O*-ylidic complexes with methylanisole derivatives.

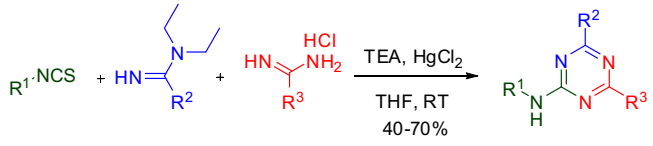




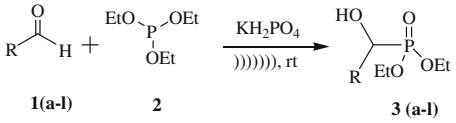


Triphenylphosphine chalcogenides are found to be effective ligands in the Pd(II)-catalyzed Suzuki–Miyaura reaction of aryl halides with aryl boronic acid at room temperature.

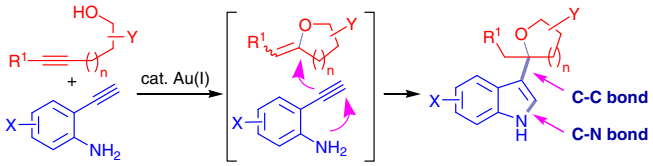


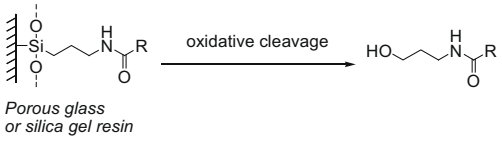


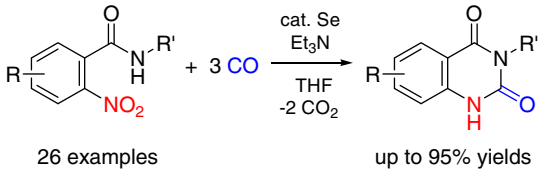
R^1 = C_6H_5, 4-ClC_6H_4, 4-FC_6H_4, $CH_3(CH_2)_5$, 3,4,5-triMeOC_6H_2
R^2 = CH_3, C_6H_5, $C_6H_5CH_2$, 4-MeC_6H_4, $CH_3(CH_2)_3$
R^3 = CH_3, C_6H_5, 4-$ClC_6H_4CH_2$, 4-$MeOC_6H_4CH_2$

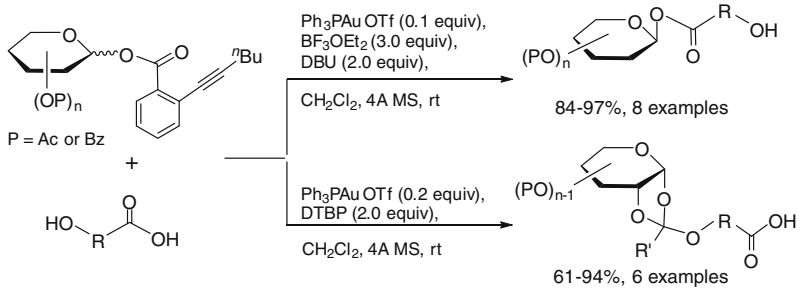


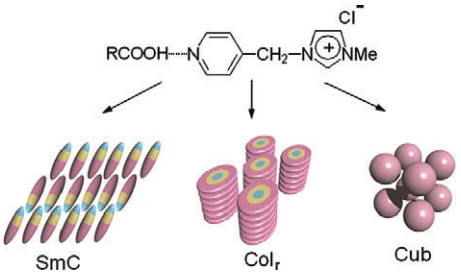
We report a new environmentally-benign, convenient, and facile methodology for the synthesis of α-hydroxyphosphonates from an aromatic/heteroaromatic aldehyde with triethyl phosphite in the presence of potassium dihydrogen phosphate (KH_2PO_4) under ultrasound-assisted solvent-free conditions. Furthermore, a series of compounds were synthesized and characterized by melting point, EI-MS, NMR, and IR tools. Utilization of easy reaction conditions, isolation, and purification makes this manipulation very interesting from an economic perspective.

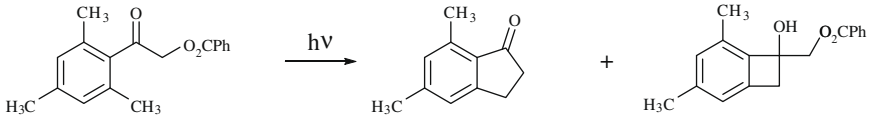


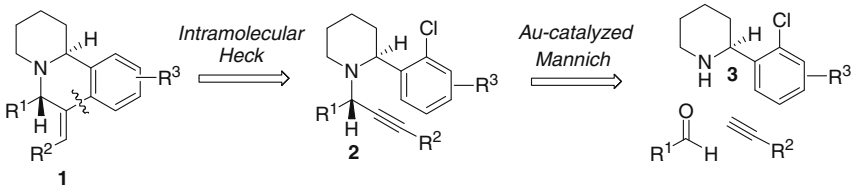




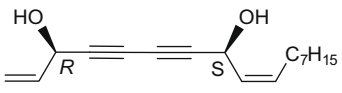








We have developed a reaction that affords the selective preparation of hexahydro-2*H*-pyrido[2,1-*a*]isoquinoline dienes, allenes, or alkenes via an intramolecular Heck cyclization of an aryl chloride with an alkyne. Tricyclic isoquinoline core structures of this nature are difficult to access by alternative methods. The unsaturated product formed can be partially controlled by choice of ligand and reaction solvent.



falcarindiol

The absolute configuration of falcarindiol, isolated as an algicidal principle against *Heterocapsa circularisquama* from Notopterygii Rhizoma, was disclosed to be 3*R*,8*S* by the synthesis of all four stereoisomers.

*Corresponding author
Supplementary data available via ScienceDirect

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