An environmentally friendly and highly efficient procedure has been developed for the selective synthesis of 2-aryl-5,6-dihydro-4H-1,3-oxazines and 2-aryl-1,4,5,6-tetrahydropyrimidines by cyclocondensation of aryl nitriles with 3-amino-1-propanol and 1,3-diaminopropane in the presence of catalytic amounts of H$_3$PW$_{12}$O$_{40}$ under thermal conditions and MW irradiation. Under the same reaction conditions, dicyanobenzenes are transformed to their corresponding mono-oxazines and mono-tetrahydropyrimidines with excellent chemoselectivity. These reactions are simple and clean, giving the products in high yields and high purity. The catalyst can be easily recovered after the reaction and reused efficiently in subsequent runs.

Key words: Oxazines, Tetrahydropyrimidines, Microwave Irradiation, Solid Acid Catalyst, Tungstophosphoric Acid