



## **3,5-DIMETHYLPYRAZOLIUM CHLOROCHROMATE CATALYZED OXIDATION OF ALCOHOLS TO ALDEHYDES AND KETONES WITH PERIODIC ACID**

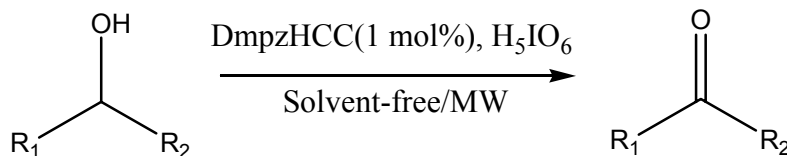
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Various chlorochromates [1,2] have been shown to be mild yet powerful reagents for oxidation of organic substrates, particularly alcohols. However the carcinogenicity of chromium in combination with the requirement of more than a stoichiometric amount of the oxidant to complete the reaction is a significant problem. In light of this, there is a need for environmentally friendlier oxidation reactions that retain the power of chromium oxidations.

In an effort to show that 3,5-dimethylpyrazolium chlorochromate (3,5-DmpzHCC) can be used catalytically instead of stoichiometrically for mild oxidations using periodic acid as the terminal oxidant, herein we report a facile and efficient oxidation of various primary and secondary alcohols to aldehydes and ketones. Using only 1% mole of 3,5-dimethylpyrazolium chlorochromate and stoichiometric amount of the co-oxidant,  $H_5IO_6$ , we have oxidized 1° and 2° alcohols to the corresponding carbonyl compounds under solvent free conditions with high to very high yields.



### References

- 1- Corey E.J; Suggs, J.W., " Pyridinium Chlorochromate. An Efficient Reagent for Oxidation of Primary and Secondary Alcohols to Carbonyl Compounds", *Tetrahedron Lett.*, 2647 (1975).
- 2- Özgün B., Canbulat M., "Oxidation of various alcohols and deoxygenation of some oximes by 3,5-dimethylpyrazolium chlorochromate", Poster presentation in XXI. National Chemistry Congress , İnönü University, Malatya, Turkey.