



Indian Journal of Chemistry
Vol. 63, July 2024, pp. 709-715
DOI: 10.56042/ijc.v63i7.7749

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Water extract of pomegranate ash (WEPA) catalyzed, green and efficient, one-pot multicomponent synthesis of 5-aminopyrazole-4-carbonitrile

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Received 2 January 2024; accepted (revised) 28 June 2024

In this work, we have described one pot multicomponent synthetic approach for 5-aminopyrazole-4-carbonitrile synthesis by using WEPA (Water Extract of Pomegranate Ash) as an organo catalyst. A series of substituted derivatives of product have been synthesized using this easy and efficient catalyst as a green organic solvent. The reaction involves condensation of malononitrile, benzaldehyde and phenylhydrazine generating one-pot pyrazole product. The synthetic route of this work involves green solvent and less hazardous reactions. The advantages of this protocol are short reaction periods, high yield of products, safe and easy procedures and operational simplicity.

Keywords: Pyrazole, WEPA (Water extract of pomegranate ash), Green organic solvent, Knoevenagel condensation, Green chemistry