**‘On water’ chemoselective synthesis of pyranodipyrazolones using Ag NPs decked GO composite as a competent and reusable catalyst**

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The field of nanocatalysis has undergone an explosive growth during the past decade. A key objective of nanocatalysis research is to produce catalysts with 100% selectivity, extremely high activity, low energy consumption, and long lifetime. In this regards we have prepared Ag Nps/rGOnanocomposites by Co-precipitation method and characterized by XRD analysis. A highly efficient protocol has been developed for the “on water” chemoselective synthesis of structurally complex and diverse pyrano[2,3-*c*:6,5-*c*']dipyrazol]- 2-one derivatives catalyzed effectively by Ag NPs/rGO composite. Moreover, this method can be considered as an ideal tool for green synthesis because it minimizes the generation of waste along with the formation of multiple bonds in a single step. Synergistic effect of heterogenic nature of water with reactants and Ag NPs/GO had profuse outcome on reaction as indicated by high TOF. The process has high atom economy and is ecologically benign, since only two molecules of water are lost. Three rings of the fused-ring framework were constructed during the reaction and in addition, catalyst could be easily recovered and recycled at least 7 times without significant loss of catalytic activity.

**References:**

[1] Dandia, A.; Sharma, A.; Parewa, V; Kumawat, B.; Rathore, K. S.; Sharma, A. *RSC Adv.,* **2015,** 5, 91888**.**

[2] Dandia, A.; Bansal, S.; Sharma, R.; Rathore, K. S.; Parewa,V.*RSC Adv.,* **2018,** 8, 30280-30288.

[3]Dandia, A.; Sharma, A.; Indora, A.; Rathore, K. S.; Sharma, A.; Jain, A.; Parewa, V. *Molecular Catalysis,* **2018,** 459, 97.