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A comparison of organic and inorganic-supports for –SO_3H functionality and their application in known reaction

Alireza Khorshidi*, Behrang Moazzen

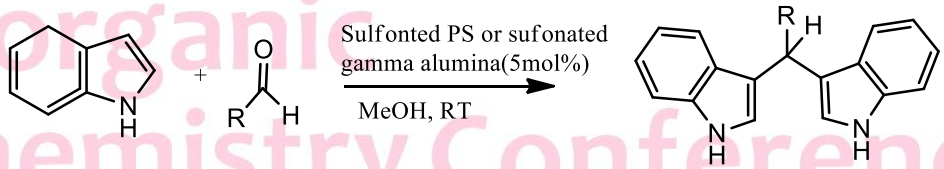
Department of chemistry, Faculty of sciences, Universityof Guilan, Rasht, Iran

E-mail: Behrang.malavan@gmail.com

Sulfonation is a major industrial chemical process used to make a diverse range of products, including dyes and color intensifiers, pigments, medicinals,organic intermediates. Sulfonated aromatic rings have been shown to be promising materials for proton exchange membranes (PEM) due to their high thermal and chemical stability as well as lower-cost production compared to commercial available perfluoro sulfonated. for example, Para-toluene sulfonic acid is a typical intermediary for the synthesis of pharmaceuticals, pesticides, and dyes and is a catalyst for organic synthesis[1].

Sulfonation of narrow polydispersity polystyrene, standards remains the method of choice for generating polystyrene sulfonate (SPS), samples with defined composition[2].

In the presenet study, γ-alumina and polystyrene foam were used as support for –SO_3H functional groups. The sulfonated products were charactrized by FT-IR, TGA and ^{1}H NMR. Eficiently of the above mentioned, solid acid was evaluated in condensation of indoles and aldehydes as a model reaction, under mild conditions. Satisfactory yields of the desired products were obtained.



Keywords: sulfonation, PSF, γ-alumina, indoles, Polystyrene

References

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[2] Jessica E. Coughlin, Andreas Reisch , Marie Z. Markarian, Joseph B. Schlenoff, journal of polymer science, **2013**, 32306.