



Synthesis of bromosilane catalyzed by palladium chloride impregnated on aluminium oxide-pillared clay

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Aluminium oxide-pillared bentonite was synthesized by the intercalation of aluminium (III) chloride into clay interlayers and calcination at 500°C for 1 h. The impregnation with PdCl₂ (Pd/Al-PILC) was carried out with calcination at 450°C for 4 h. The synthesized clay and raw clay were characterized by X-ray diffraction (XRD) and N₂ adsorption-desorption (BET) techniques. Pd/Al-PILC was utilized for the synthesis of bromosilanes. Triisopropylbromosilane was prepared conveniently and efficiently via the reaction of triisopropylhydrosilane and Br₃CCOOEt in the presence of a catalytic amount of Pd/Al-PILC in refluxing THF over 1 h in quantitative yield under mild conditions. The catalyst could be recovered and reused up to five times without appreciable loss of activity.

Keywords: Aluminium oxide-pillared clay; Hydrosilane; Bromosilane; Ethyl tribromoacetate