NEW HETEROGENEOUS CATALYST OF OIL SHALE FOR ORGANOPHOSPHORUS SYNTHESIS ASSISTED BY ULTRASOUNDS

Elmustapha Ennesyry*, Fathallaah Bazi, Bahija Mounir, M’hammed Elkouali, Mohammed Hamza

Laboratory of Analytical Chemistry and Physico-Chemistry of Materials (LCAPCM), Faculty of science Ben M’sick, University Hassan II of Casablanca, Boulevard Cdt Driss Harti, BP.7955, Ben M’sick, Casablanca, Morocco
*e-mail: m.ennesyry@gmail.com

Abstract. A new heterogeneous catalyst has been developed based on Moroccan oil shale raw matter. This new support was used in the $\alpha$-hydroxyphosphonates synthesis by Pudovik pathway using dialkylphosphites and carbonyls compounds. The transformation was performed by using oil shale-based catalyst under room temperature and by ultrasound-assisted synthetic approach. Both approaches have been found to be efficient in the organophosphorus synthesis. The reaction was carried out with a high yield in dry media, the catalyst is separated easily and reused several times without losing its activity.

Keywords: $\alpha$-hydroxyphosphonate, oil shale, heterogeneous catalysis, ultrasound.