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This work focus on hydrogenation and Baeyer-Villiger oxidation of citral using mesoporous materials such as: MCM-41, SBA-12 and SBA-16 containing niobium, tin and/or ruthenium. e aim of our study was to test and evaluate several aspects of a catalyst. Combination of di erent support materials and active sites should lead to the desired products selectivel and in high yield. All of the synthesized mesoporous molecular sieves were active catalysts for the Baeyer-Villiger oxidation of citral. e results of this reaction showed that 2-hydroxy-2,4-dimethyl-hept-6-en-3-one is the main product, followed by cyclocitral (, -unsaturated aldehyde) and dihydromyrcenol. e best results obtained for NbSBA-12 (yield around 25%) in ethanol as reaction medium at 323K and SnSBA-12 at 373K in ethanol as reaction medium (yield ~ 20%). In hydrogenation o citral the in uence of pressure, time of reaction, temperature, composition and structural/textural properties of the obtained materials on the conversion of citral to the desired products was determined. It was observed that the conversion of citral increased with temperature and pressure reaction alterations. e hydrogenation selectivity depends on reaction temperature, i.e., at high temperature the selective hydrogenation of the C=O group was much more di cult in the presence of C=C bond. e product of the rst hydrogenation step, citronellal, was isomerized to isopulegol on the acid sites and further hydrogenated to menthol at longer reaction times. e increase in the polarity of the solvent increases the catalytic activity, however the reaction pathway was modi ed.

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