Synthesis and characterization of mesoporous silver/SBA15 catalyst for the organic synthesis

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INTRODUCTION

The Ag/SBA15 material was prepared by the incipient wetness impregnation method.. The material was characterized by XRD, UV-Vis, BET, IR and Raman microscopies. : Ag-SBA15 materials are of purely silver composition with no catalytically active sites inside the pores and on the surface of mesoporous materials which makes it possible to enhance the acid-base properties in order to synthesize Ag-type catalysts /SBA-15 for use in esterification the production of biodiesel .

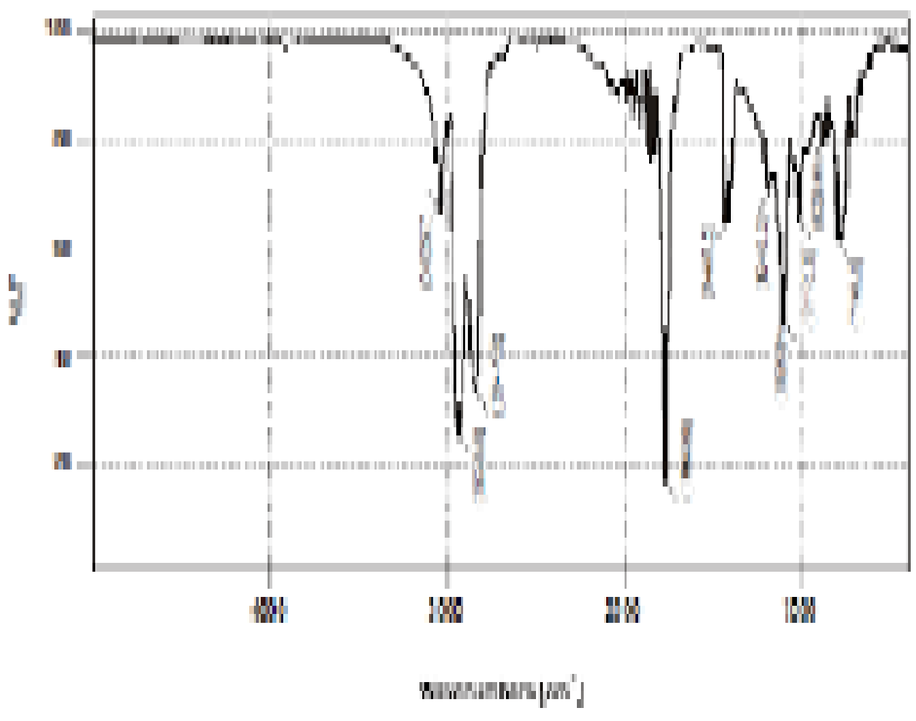
EXPERIMENTAL

preparation of Ag/SBA15

Preparation of Ag/SBA-15 catalysts by route .“post-synthesis” Ag/SBA15 materials are prepared by the incipient wetness impregnation method. For this, a quantity of calcined SBA15 material is used and mixed with a volume bidistilled water containing an adequate amount of silver nitrate, in a stirrer magnetic heating in order to respectively obtain the Si/Ag ratio =10

Catalytic test

we tested our synthesized materials as catalysts in esterification reactions of acid which is a natural molecule of the fatty acid family.



CHARACTERIZATION OF CATALYSTS

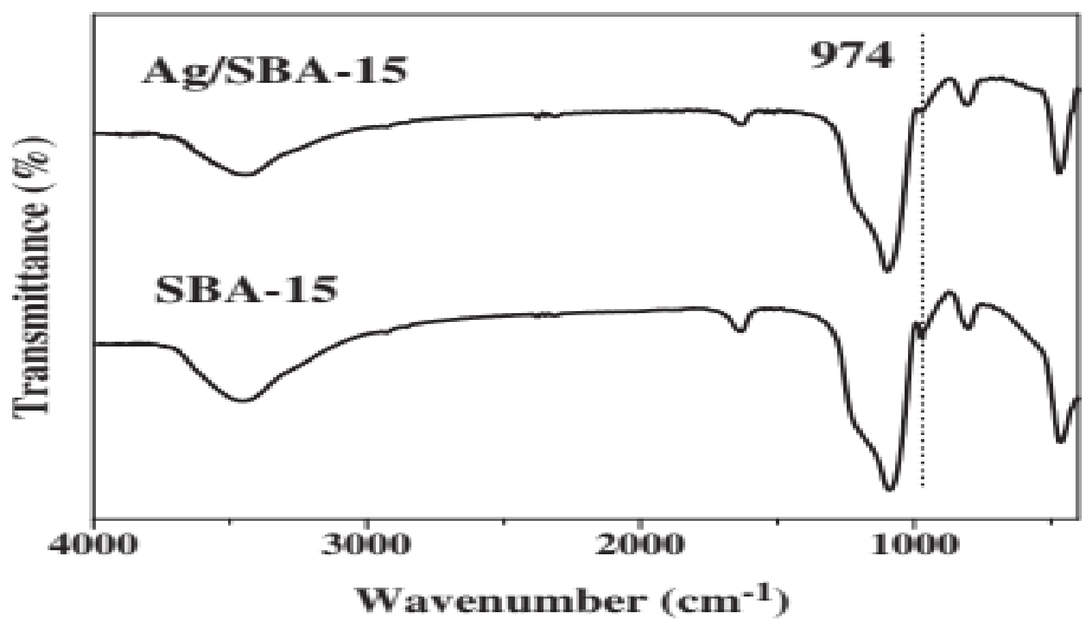


Fig. 3. FT-IR spectra of SBA-15 and Ag/SBA-15 nanocomposites.

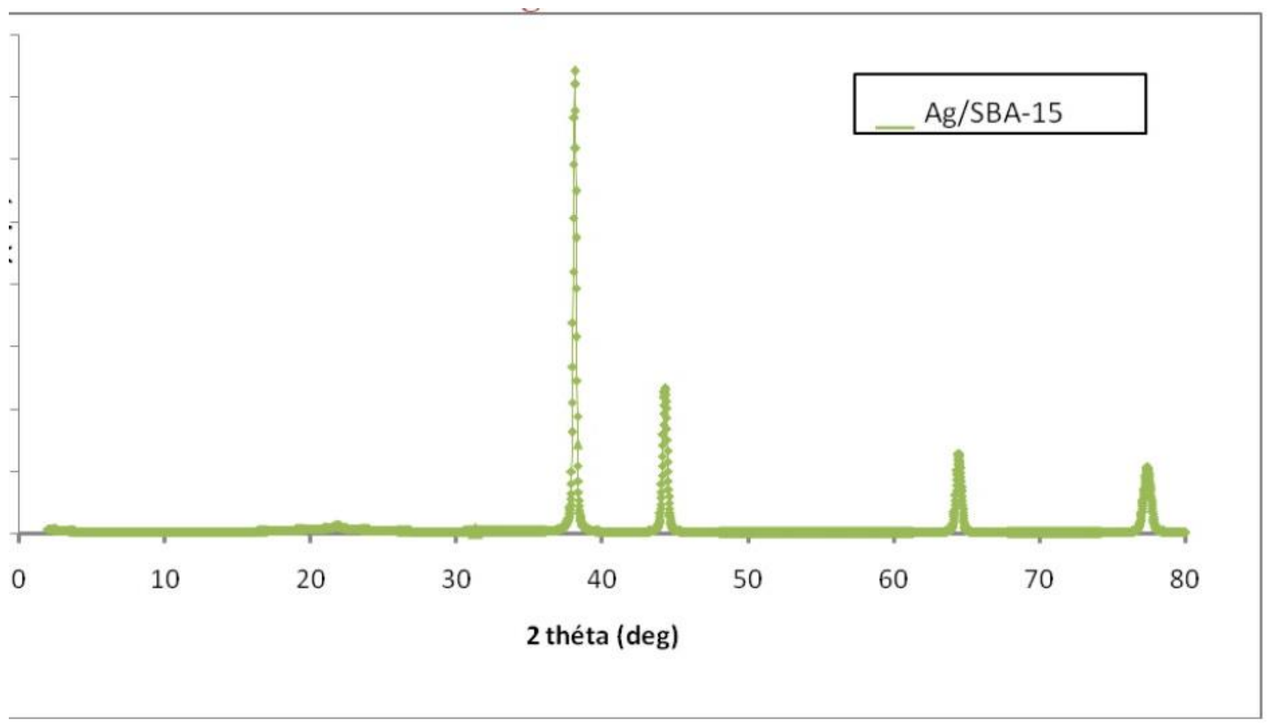


Fig.4..X-RAY Diffraction analysis weak of Ag/SBA15

CONCLUSIONS

The mesoporous The Ag/SBA-15 material was successfully prepared by a post-synthesis method Compound Ag/silica have high surface area and large Structure.. Porous volume The results show that: The introduction of silver into SBA-15 mesoporous materials with different Ag ratios leads to the mesoscopic