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- Document Title** : STUDIES OF PHYSICOCHEMICAL, SURFACE AND CATALYTIC PROPERTIES OF DOUBLE OXIDE SYSTEM Cu-Mn-O
دراسة الخواص الفيزيوكيميائية والسطحية والحفزية للنظام المزدوج لأوكسيدى النحاس والمنجنيز
- Document Language** : Arabic
- Abstract** : CuMn-O double oxide catalysts have been prepared by thermal treatment (350 – 950oC) for the copper – manganese carbonate precipitate, which is prepared by co-precipitation method at controlled pH and temperature. Sodium carbonate was used as a precipitating agent and mixture of copper/manganese nitrate solution. Physicochemical characterization using TG , DTG and XRD measurements have been made. The obtained results revealed that Cu_{1.5}Mn_{1.5}O₄ is formed at lower temperature (less than 550oC) as the major phase together with CuO and Mn₂O₃ as separate phases for all the prepared solid specimens calcined in air at 550 – 950oC. Studying the specific surface area(SBET) using N₂-adsorption at -196oC over variously prepared solids revealed that the SBET decrease with the increase in calcinations temperature from 350 – 950oC and with the increase in Mn/Cu ratio. The catalytic activity for all the prepared solid specimens using H₂O₂-decomposition and CO-oxidation by O₂ have been studied. These results depict that the most efficient catalyst is that contains Cu/Mn = 1/2 and thermally treated in air at 450oC.
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