P31: Methanol synthesis over mono-metal substituted keggin polyoxoanions

Sadia MANSOURI[1], Salem CHEKNOUN[1],Chérifa RABIA [2], René THOUVENOT[3], Smain HOCINE [1]

1-Laboratoire de Chimie Appliquée et de Génie Chimique; Université Mouloud Mammeri ;Tizi-Ouzou, Algérie

2-Laboratoire de Chimie du Gaz Naturel; Institut de Chimie USTHB; B.P 32 El- Alia Bab-Ezzouar 16111 ; Alger, Algérie

3-Laboratoire de Chimie Inorganique et Matériaux Moléculaires; case courrier 42 Université Pierre et Marie Curie, 4, Place Jussieu, 75252 ; Paris Cedex 05; France

mansouri_sadia@yahoo.com

Abstract:

Methanol synthesis by partial oxidation of methane was studied at atmospheric pressure with 600°C and 650°C using cesium salts of Keggin-type transition metal mono-substituted polyoxomolybdates, namely α-$[SiMo_{12-x}M'(H_2O)O_{39}]^{n-}$. *X* H_2O(M' = Fe, Ni, Co and Cu, x= 0 and 1) with the general formula Cs_y [anion]. *x* H_2O which were prepared and characterized by various analysis techniques (IR, Visible UV, DRX, MEB) by using O_2 or N_2O as oxidising agent, the principals products of the reaction are CH_3OH, CH_2O and CO_2. The conversion and the selectivity of products depend strongly on the reaction temperature, of the nature oxidising agent and the composition of catalyst.

Keywords: polyoxomolybdates, Keggin-type, methanol synthesis