sodalite can be modified having mesoporous structure. This study focused on the synthesis of mesoporous sodalite by using various organic structure directing molecules. The sodalite was synthesized hydrothermally for $6-24$ hours at 150°C for crystallization by using different silica sources. The synthesized samples were characterized using XRD, FTIR and BET surface area. XRD and FTIR results showed that pure sodalite was formed during 6 hours crystallization time by using dimethyldioctadecyl ammonium bromide and organosilane(trimethoxsilylpropyldimethyloctadecyl ammonium chloride).However only sodalite synthesis by using organosilane (trimethoxsilylpropyldimethyloctadecyl ammonium chloride) showed mesoporosity as proved by BET surface area.

C25. SECONDARY METABOLITES FROM THE STEM BARK OF *FICUS PLATYPHYLLA* AND THEIR ANTITYROSINASE ACTIVITIES

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Chromatographic purification of stem bark of *Ficus platyphylla* led to isolation of five compounds. The structures of the isolated compounds were determined by spectroscopic analysis as hordenine, epicatechin, lupeol, lupeol acetate and α-amyrin acetate. Lupeol, lupeol acetate and α-amyrin acetate showed significant antityrosinase activity against mushroom tyrosinase enzyme with percent inhibition of 67.7%, 66.2% and 62.2%, respectively.
Keywords: Secondary metabolite; *Ficus platyphylla*; tyrosinase inhibition

C26. FABRICATION OF HIGH QUALITY MESOPOROUS SILICA/GOLD FILM NANOCOMPOSITES: CALCINATION VERSUS THERMAL HYDROGEN REDUCTION

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High quality mesoporous silica is an important nanomaterial in confinement of metal nanoparticles for potential applications as catalysts, sensors, and opto-electronic devices. Herein we report that high quality mesoporous silica/gold film nanocomposites with an interpore distance of 4.1 nm were successfully fabricated as transparent thin film by an amphiphilic trinuclear gold(I) pyrazolate complex that act as both a template in sol-gel synthesis and as a metal source in formation of gold nanoparticles (AuNPs). In contrast to the calcined thin films at 250 and 450°C for 3 h, diffraction peak of d100 and transmission electron microscope (TEM) images showed high quality of mesoporous silica/gold film nanocomposites after thermal hydrogen reduction in the temperature range between 190 and 250°C for 2 h. Nevertheless, both methods indicated formation of AuNPs as proved by the presence of diffraction peak at $2\theta = 38.20°$, surface plasmon resonance (SPR) peak between 500 to 580 nm, and spherical shape of TEM images.
Keywords: Mesoporous silica; sol-gel; calcination; thermal hydrogen reduction; gold nanoparticles

C27. ENHANCED ACTIVITY OF ZnO-rGO COMPOSITES FOR PHOTOCATALYTIC REMOVAL OF PHENOL

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The use of zinc oxide (ZnO) in photocatalysis is limited due to its drawbacks in photocorrosion and high rate of recombination electron-hole pairs. In order to suppress the drawbacks, ZnO was