

**13th CONFERENCE for
YOUNG SCIENTISTS in CERAMICS**

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BOOK OF ABSTRACTS**

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STRUCTURE AND PHOTOCATALYTIC PROPERTIES OF SOL-GEL SYNTHESIZED PSEUDOBROOKITE

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Fe₂TiO₅ nanoparticles were synthesized by modified sol-gel method with aid of Fe(NO₃)₃·9H₂O and Ti(OC₃H₇)₄ as starting reagents, oxalic acid as chilate agent and cetyltrimethylammonium bromide as surfactant. The aim of this study was to asses the photocatalytic degradaton of the antibiotic Oxytetracycline (OTC) using visible light irradiation. As prepared nanoparticles were characterized by XRD, BET, FESEM and UV-vis DRS. The optimal operating conditions of oxytetracycline photocatalytic degradation were achived by changing the pH of the solution and changing the concentration of photocatalyst.

OA-112

PRECURSORS EFFECT ON Ni_{0.3}Co_{2.7}O₄ OXIDE ELECTROCATALYTIC ACTIVITY

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To develop an eco-friendly, stable, low cost, efficient, and selective material for Oxygen Reduction Reaction electrocatalysis, mesoporous Ni_{0.3}Co_{2.7}O₄ spinel oxide has been effectively synthesized using sol-gel process with different precursors. The Precursors nature and molecular components effect on the resulted oxides electrocatalytic properties was evidenced for the first time. The resulted mesoporous oxides exhibit an average particle size of about 9 nm with cauliflowers-like structure. The specific surface areas was found to be sensitive to the precursor nature, 56.49, 25.70, and 3.66 m²/g for the oxide obtained using, Chloride, Nitrate and Sulfate precursors, respectively. Interestingly, linear sweep voltammetry (LSV) and Rotating-ring-disk