

عنوان مقاله:

Study of the Effect of Acid-base Character of the Lamellar Double Hydroxides "Zn^wAl-CO^w" and of the "Ghassoul" Clay on Their Redox Potential and Antimicrobial Activities

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نویسندگان:

Jaouad Zerhouni - Microbiology and health team: laboratory of Chemistry Biology applies to the environment, Faculty of Sciences, Moulay Ismail, Meknes University, Morocco

Fouzia Rhazi Filali - Microbiology and health team: laboratory of Chemistry Biology applies to the environment, Faculty of Sciences, Moulay Ismail, Meknes University, Morocco

Mohammed Naciri Bennani - Materials and applied Catalysis team: laboratory of Chemistry Biology applied to the environment, Faculty of Sciences, Meknes, Morocco

Omar Qabaqous - Materials and applied Catalysis team: laboratory of Chemistry Biology applied to the environment, Faculty of Sciences, Meknes, Morocco

Aziz Bouymajane - Microbiology and health team: laboratory of Chemistry Biology applies to the environment, Faculty of Sciences, Moulay Ismail, Meknes University, Morocco

Jamal Houssaini - Materials and applied Catalysis team: laboratory of Chemistry Biology applied to the environment, Faculty of Sciences, Meknes, Morocco

Safae Allaoui - rMaterials and applied Catalysis team: laboratory of Chemistry Biology applied to the environment, Faculty of Sciences, Meknes, Morocco

Faouzia Benhallam - Microbiology and health team: laboratory of Chemistry Biology applies to the environment, Faculty of Sciences, Moulay Ismail, Meknes University, Morocco

خلاصه مقاله:

Our study is to highlight the effect of the acid-base character and the redox potential of two clays, synthetic anionic Layered Double Hydroxides Zn m Al-CO m (LDH) clay, and natural commercial cationic clay "Ghassoul" on their antioxidant and antibacterial activities. The antibacterial effect was tested on two Gram-positive bacteria: Staphylococcus aureus and Enterococcus faecalis. Then it was tested on a Gram-negative bacterium: Escherichia coli. The determination of the minimum inhibitory concentration of the two materials was carried out using the microplatemicrotitration technique. The antioxidant activities of clays are assessed by the methods Y.Y-diphenyl-1-picrylhydrazyl and the reducing power of iron (Fe m +). The redox potential (Eh) was measured and the redox strength (rHY) was evaluated. The results showed that these materials have an antibacterial effect on the three bacteria tested, the measured zero charge point of Ghassoul (pHzpc = λ .Y Δ) more basic than that of double layer hydroxide (pHzpc

=Y.a), redox potential of LDH (-YYmV) was higher than that of Gh (- 10mmV), and the rHY of Gh (1F.oF) was higher .compared to anionic clay (1m.mm). Keywords: LDHs, Ghassoul, Redox Potential, Zero point of Charge, Antibacterial

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