*materials*

MDPI

*Supplementary Material*

# Synthesis of Mesoporous $Zn_{1-x}M_xAl_2O_4$ Substituted by $Co^{2+}$ and $Ni^{2+}$ Ions and Application in the Photodegradation of Rhodamine B

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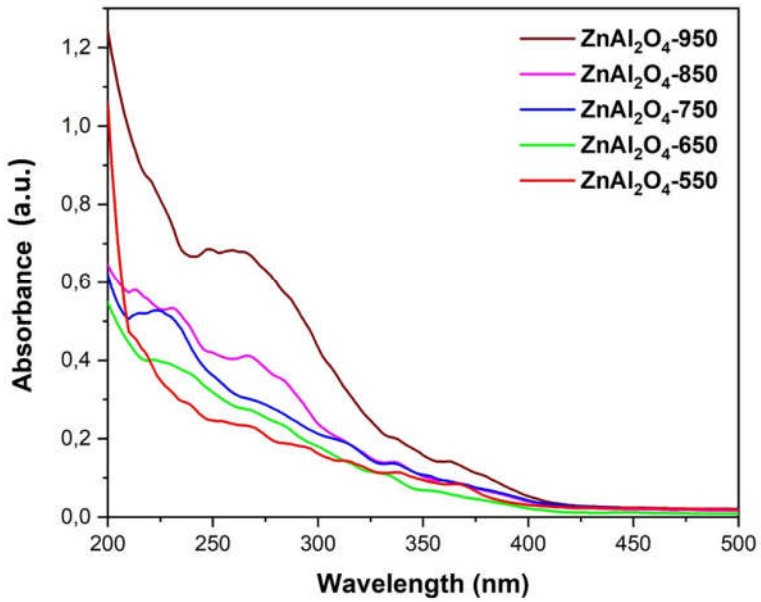



**Figure S1.** Comparison between UV-Vis Diffuse Reflectance spectra of samples: $ZnAl_2O_4$–550, $ZnAl_2O_4$–650, $ZnAl_2O_4$–750, $ZnAl_2O_4$–850, $ZnAl_2O_4$–950.

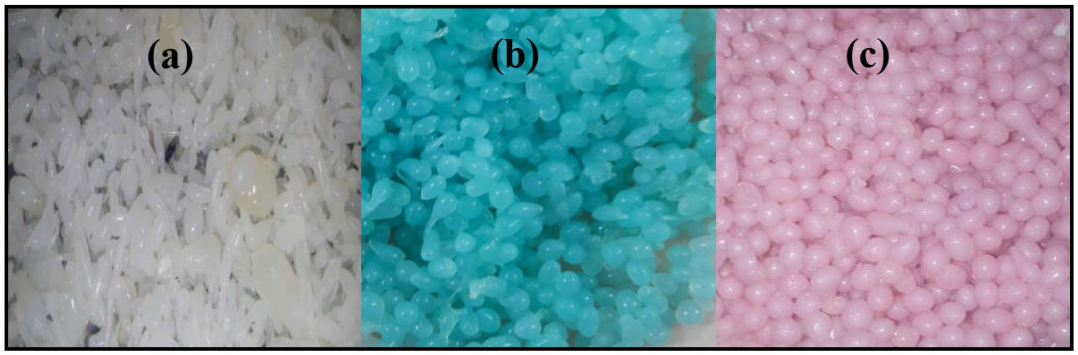



**Figure S2.** Metal spheres complexed with chitosan before calcination: (**a**) QT-Zn-Al, (**b**) QT-Ni-Al, (**c**) QT-Co-Al.

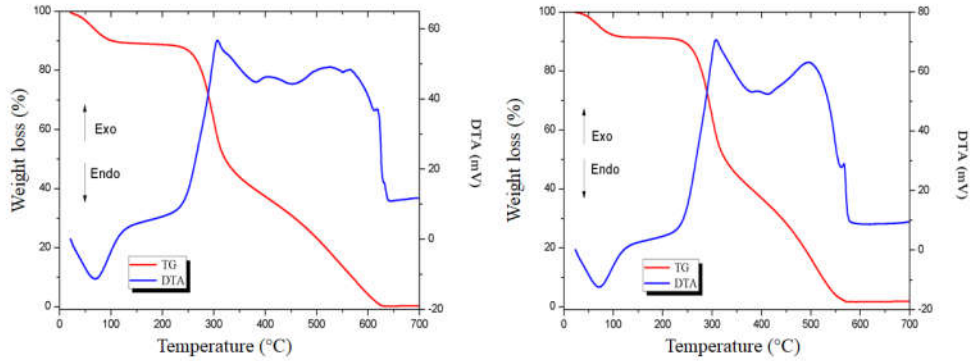



**Figure S3.** TG and DTA of pure chitosan in (**a**) Synthetic air and (**b**) Nitrogen under synthetic air atmosphere with a flow of 50 $cm^3$ $min^{-1}$ and a heating ratio of 10 °C $min^{-1}$ to a temperature of 1000 °C.

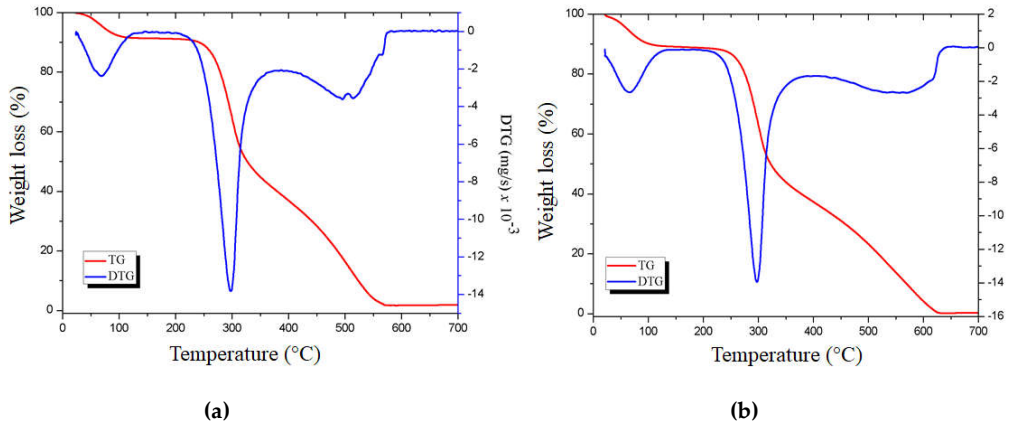



**Figure S4.** TG and DTG curves of pure chitosan in (**a**) synthetic air and (**b**) nitrogen gas with a flow of 50 $cm^3$/min. and heating ratio of 10 °C/min from ~24 °C to 700 °C.