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Supplementary Information:

ZIF-8 Derived ZnO: A Facile Catalyst for Ammonium Perchlorate Thermal Decomposition

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XRD Analysis:

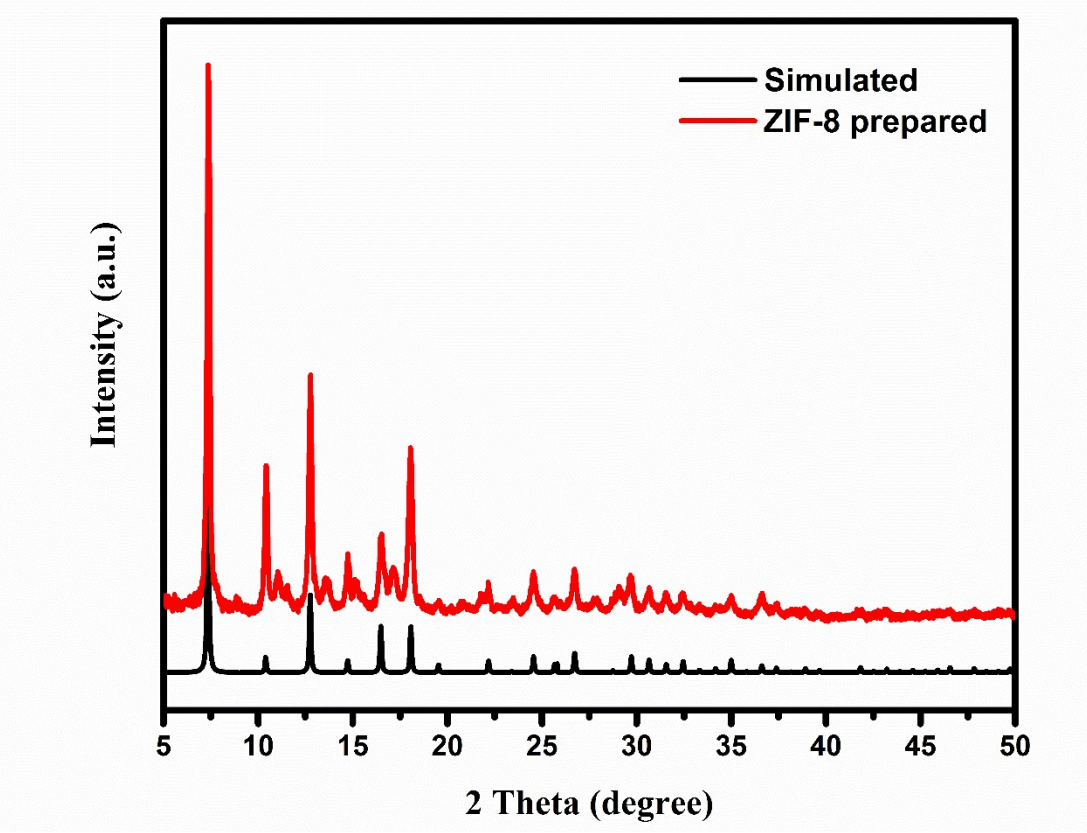

Fig. S1 XRD pattern of synthesized ZIF-8.

FT-IR Analysis:

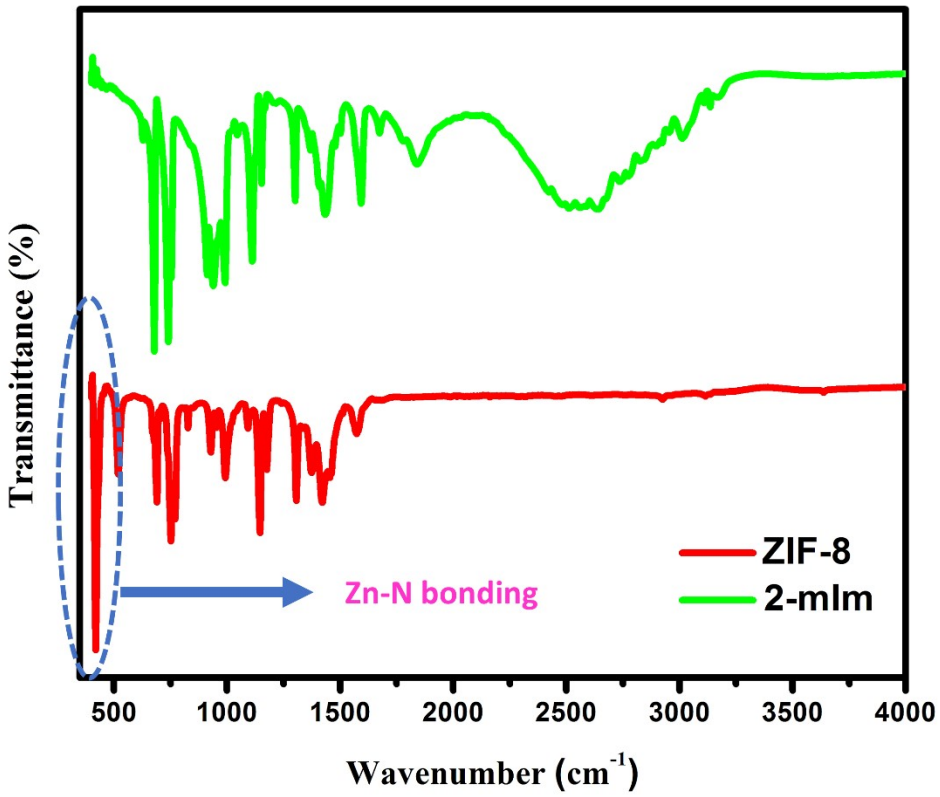

Fig. S2 FT-IR spectra of 2-Methylimidazole and synthesized ZIF-8.

TEM Analysis:

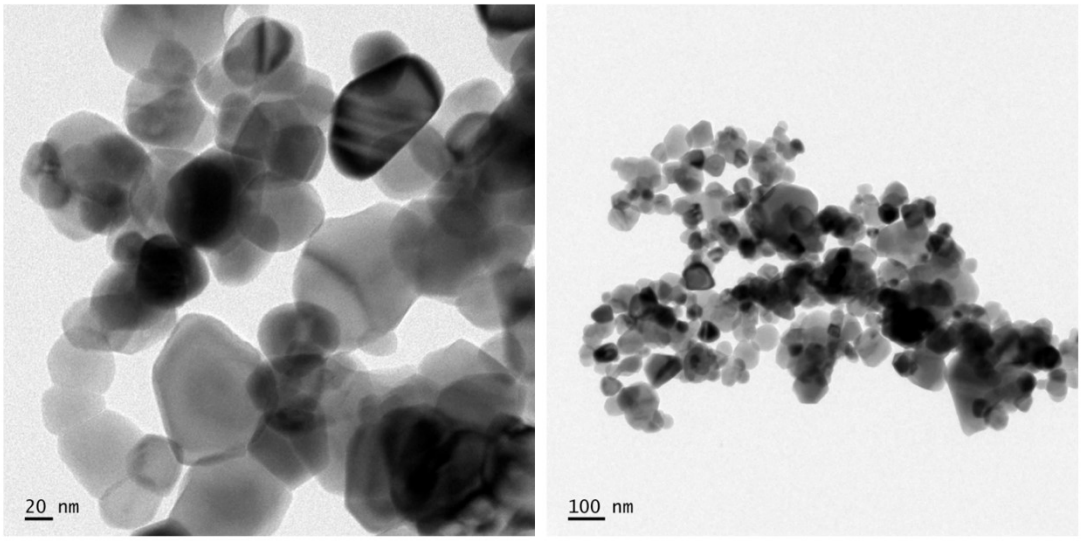

Fig. S3 TEM images of Z500 at different scales.

UV-Vis Diffuse Reflectance Spectra:

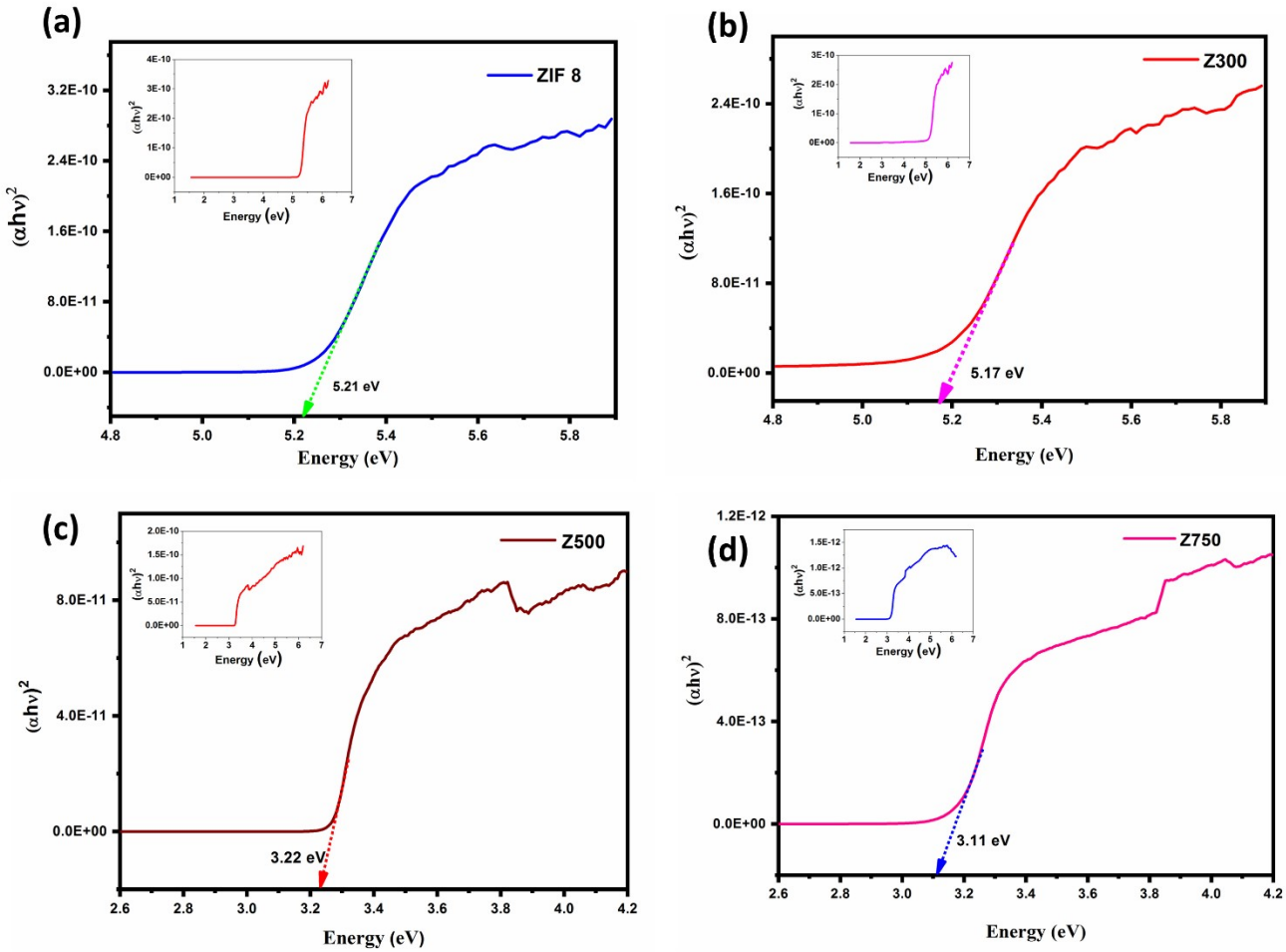

Fig. S4 Tauc-plots of (a) ZIF-8, (b) Z300, (c) Z500, and (d) Z750.

BET Analysis:

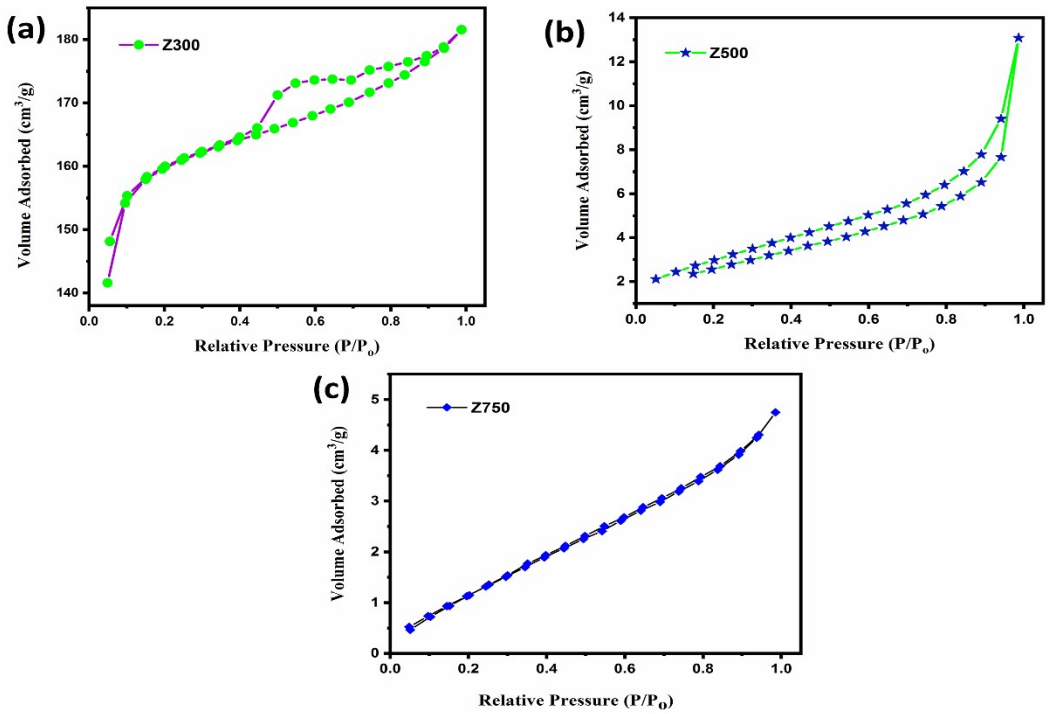

Fig. S5 N_2 adsorption – desorption isotherms of (a) Z300, (b) Z500, and (c) Z750.

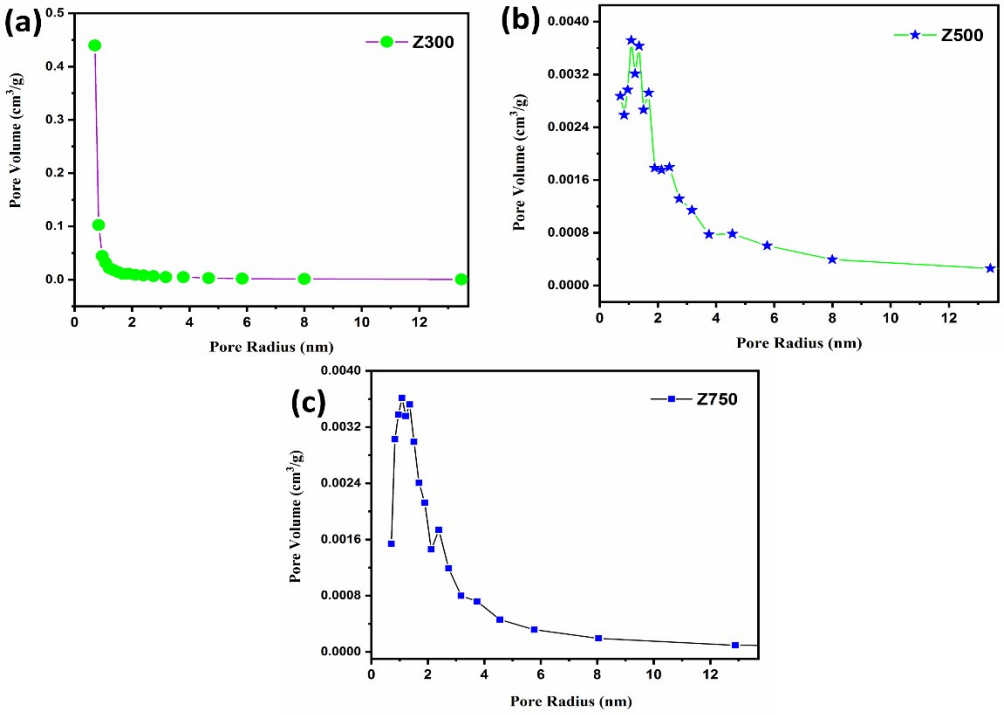

Fig. S6 Pore Size Distributions of (a) Z300, (b) Z500, and (c) Z750.

XPS Analysis:

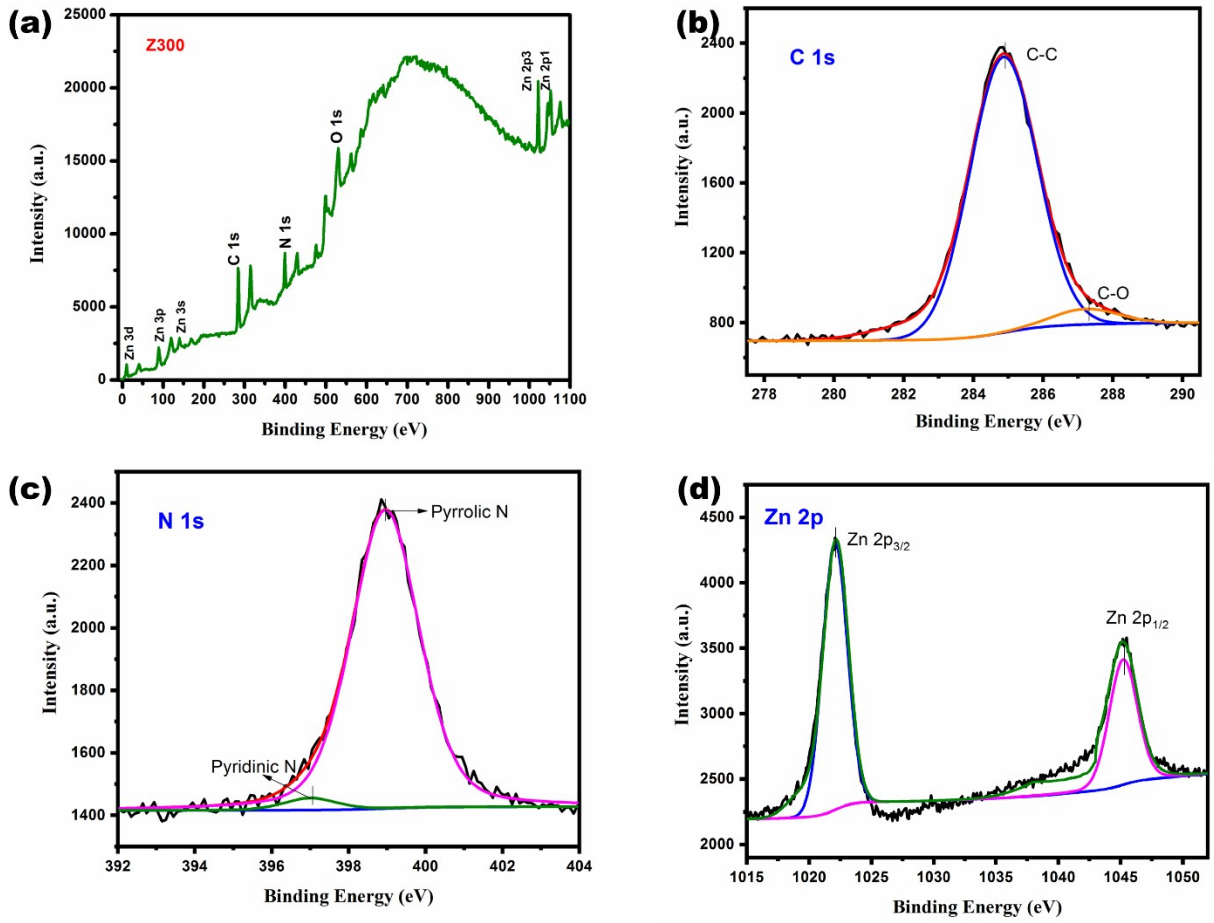

Fig. S7 XPS (a) survey spectrum, (b) C 1s, (c) N 1s, and (d) Zn 2p spectra of Z300.

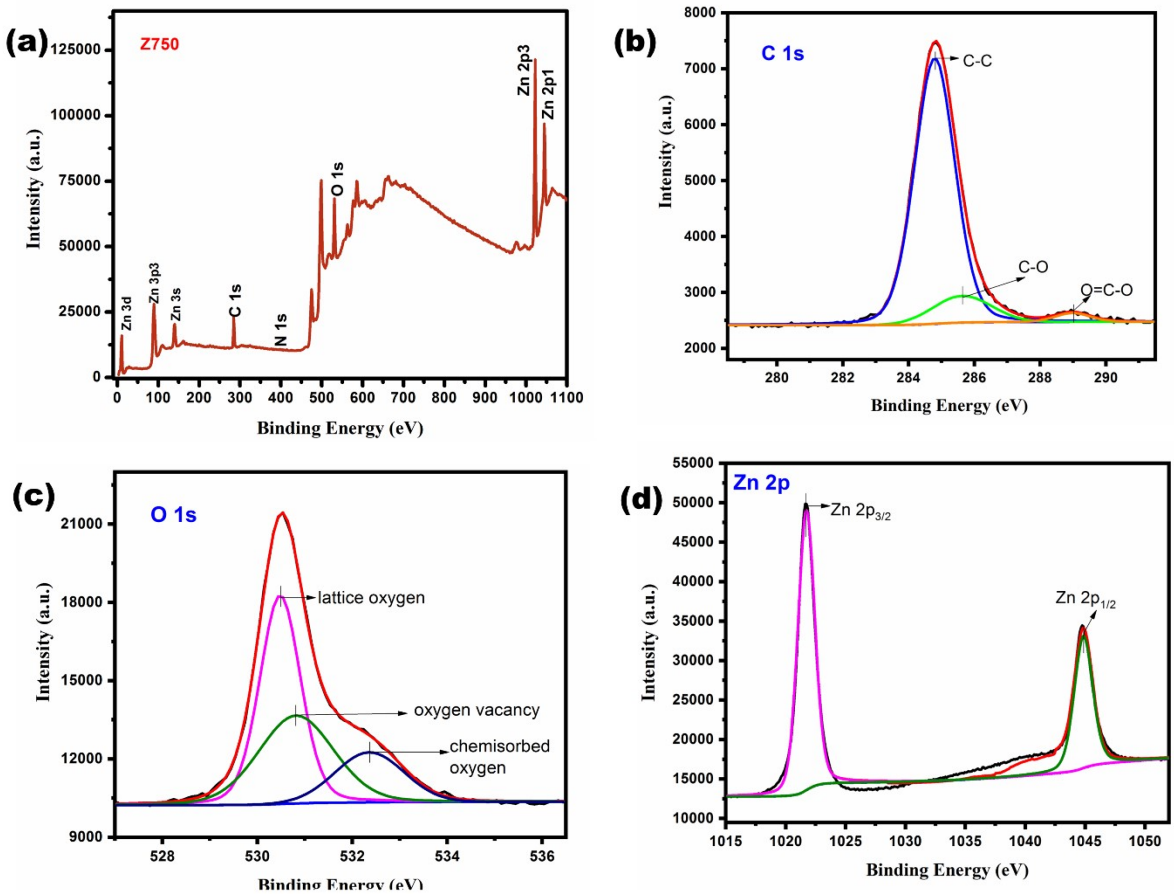

Fig. S8 XPS (a) survey spectrum, (b) C 1s, (c)O 1s, and (d) Zn 2p spectra of Z750.

Thermal Analysis: **DTG Curves**

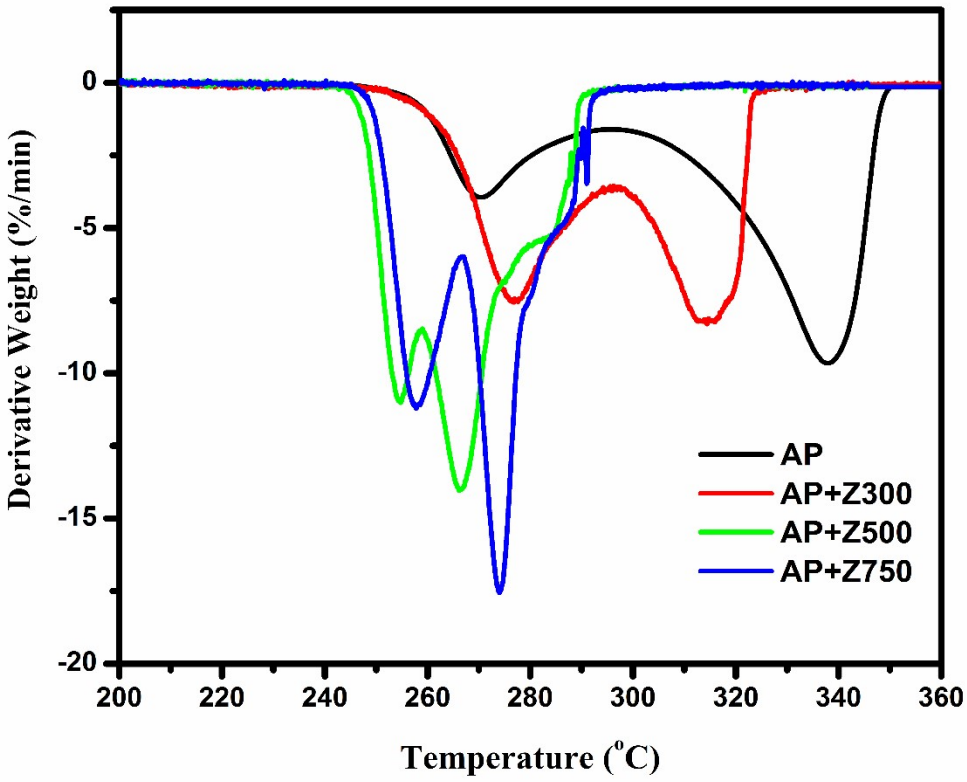

Fig. S9 DTG curves of AP with and without catalysts.

TG-MS Curves:

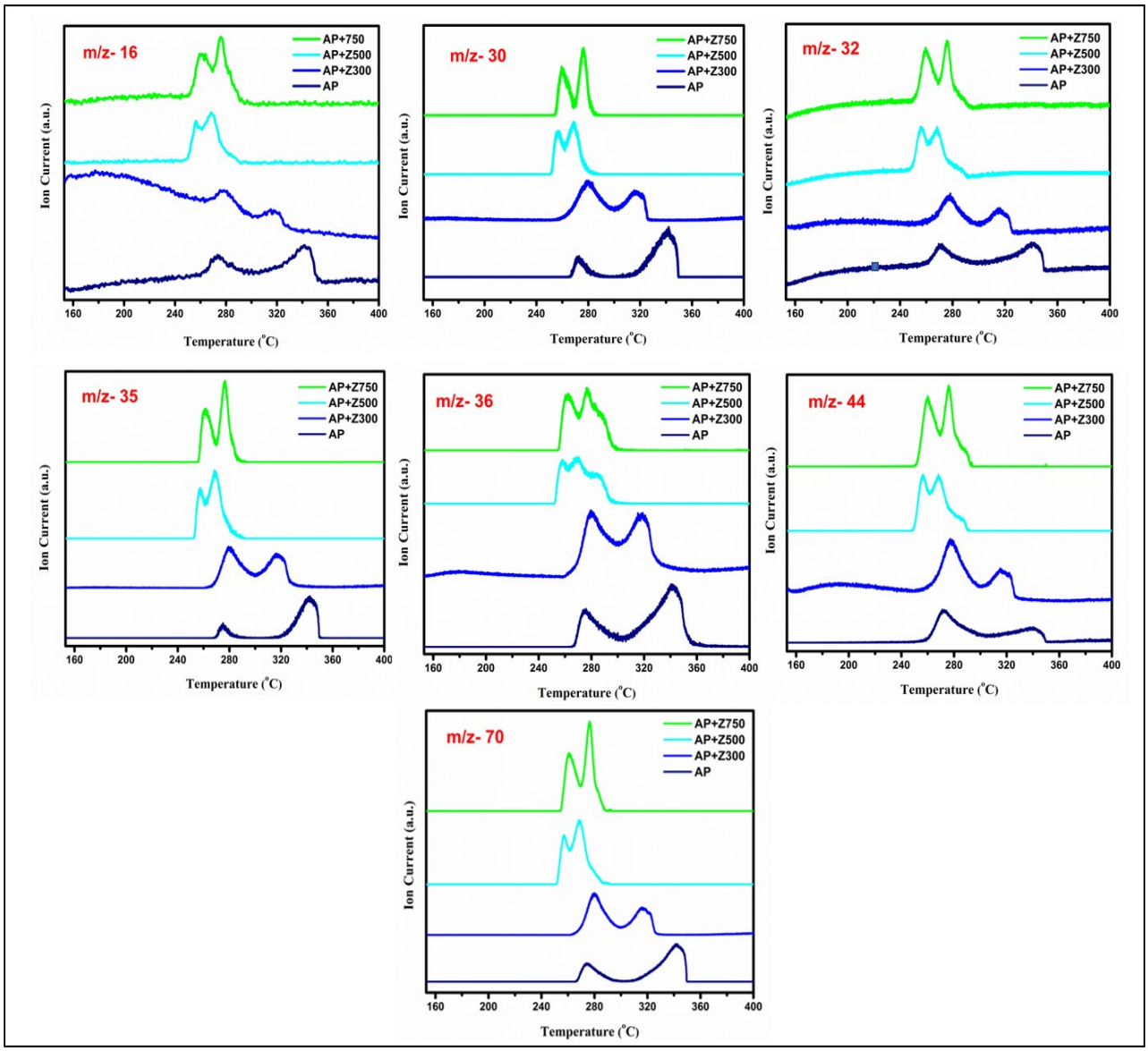

Fig. S10a TG-MS curves of AP decomposition with and without catalysts Z300, Z500 and Z750 at various m/z values

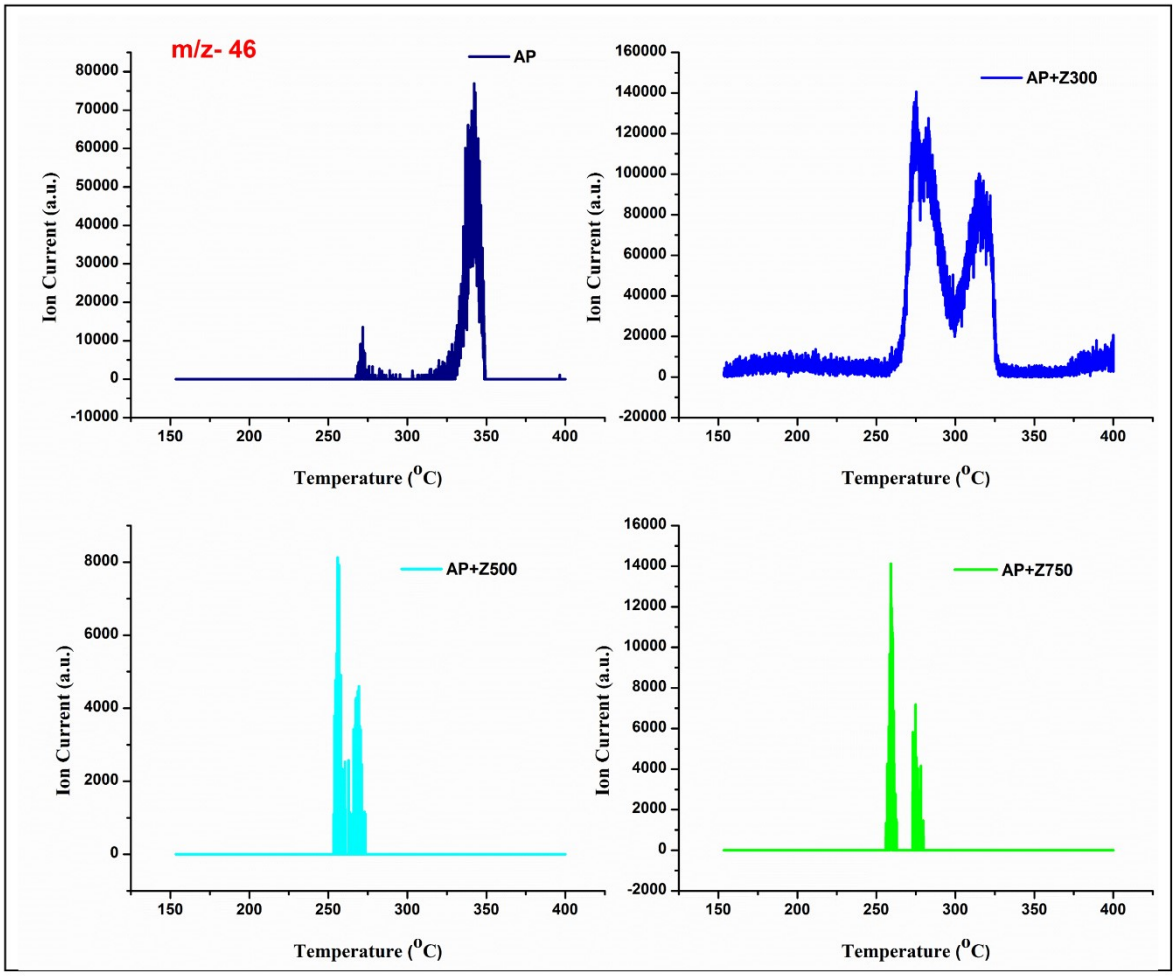

Fig. S10b TG-MS curves of AP decomposition with and without catalysts Z300, Z500 and Z750 at m/z value-46