Supporting Information

Facile synthesis of nanoporous Zn-decorated Y zeolite: A strategy towards the enhancement of photocatalytic performance and antibacterial activity

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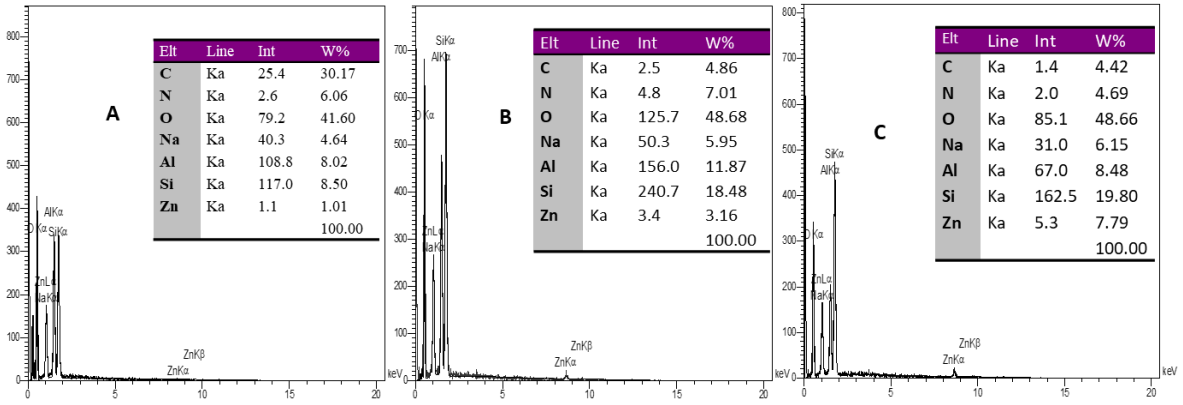

Fig S1 a. EDS analysis of (a) Zn-DYZ-1, (b) Zn-DYZ-3, and (c) Zn-DYZ-4

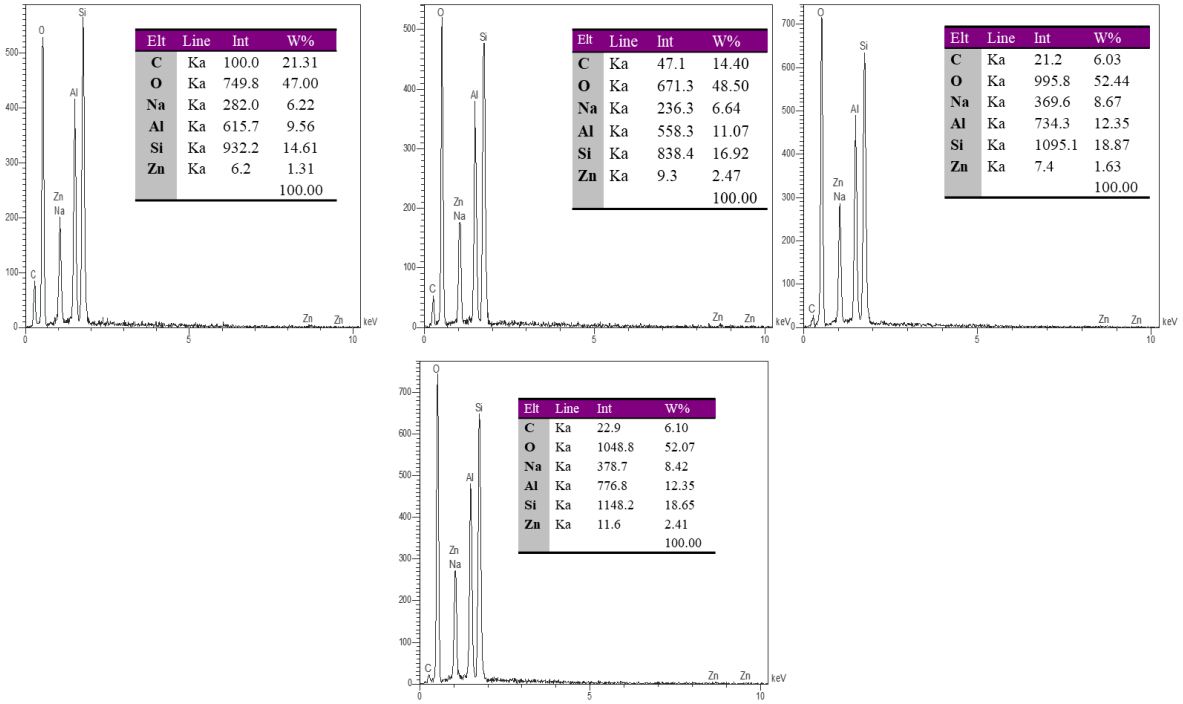

Fig S1 b. EDS analysis of four point of Zn-DYZ-2

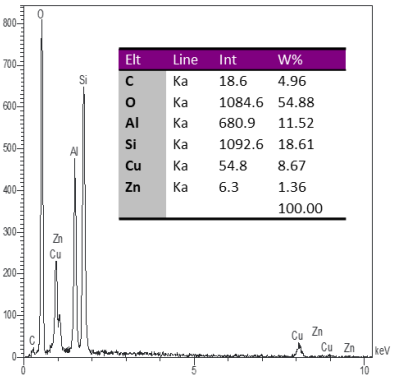

Fig S1 c. EDS analysis of Cu-exchanged with Zn-DYZ-2

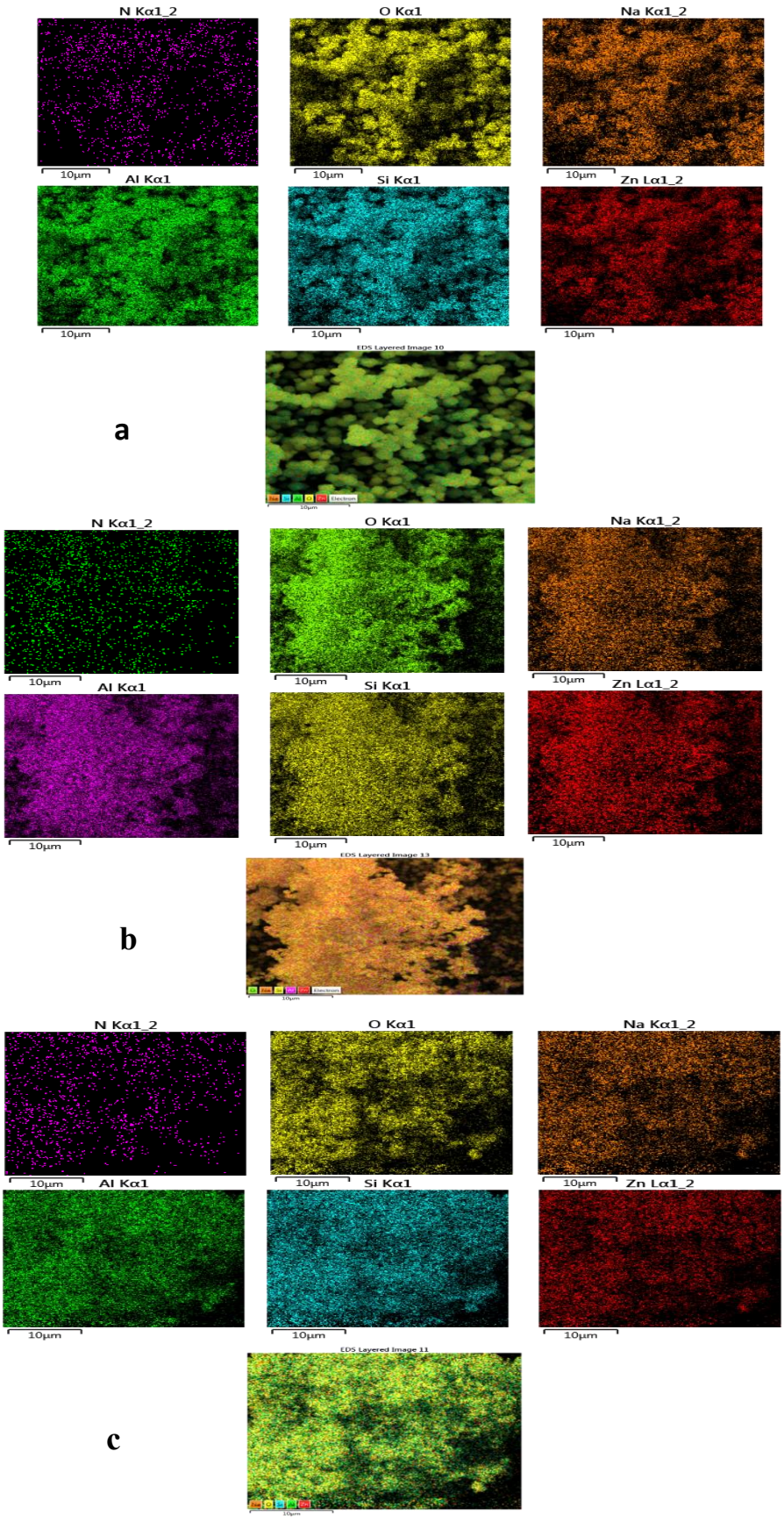

Fig S2 Distribution of elements as separately in a) Zn-DYZ-1, b) Zn-DYZ-2, c) Zn-DYZ-3

Fig S3 shows the TG/DTA thermal analysis of Zn-DYZ-2. The DTA and TGA thermograms show changes in the porous structure of the zeolite and the zeolite framework. The weight loss between 100-300°C is attributed to the adsorbed water on the surface of the zeolite, which is similar to that of the zeolite. In turn, this indicates that decorating zinc in the zeolite framework does not affect stability and zeolite structure. In addition, the slight loss of quality in the temperature range of 550-700 °C is related to the completion of dehydration and the water in the internal zeolite structure. In addition, the amount of desorbed water is related to the cation numbers in zeolite structure. In this case, the number of cations can be increased by substituting Al for Zn. However, destruction of the zeolite structure does not occur at low temperatures, which proves that the zeolite structure remains unchanged after replacing zinc instead of aluminum. The DTA curve shows that the endothermic peak of Zn-DYZ lasts until 700 °C, which may be due to the loss of adsorbed water in the form of physical and chemical adsorption. Also, it can be also related to decomposition of organic template. However, the exothermic

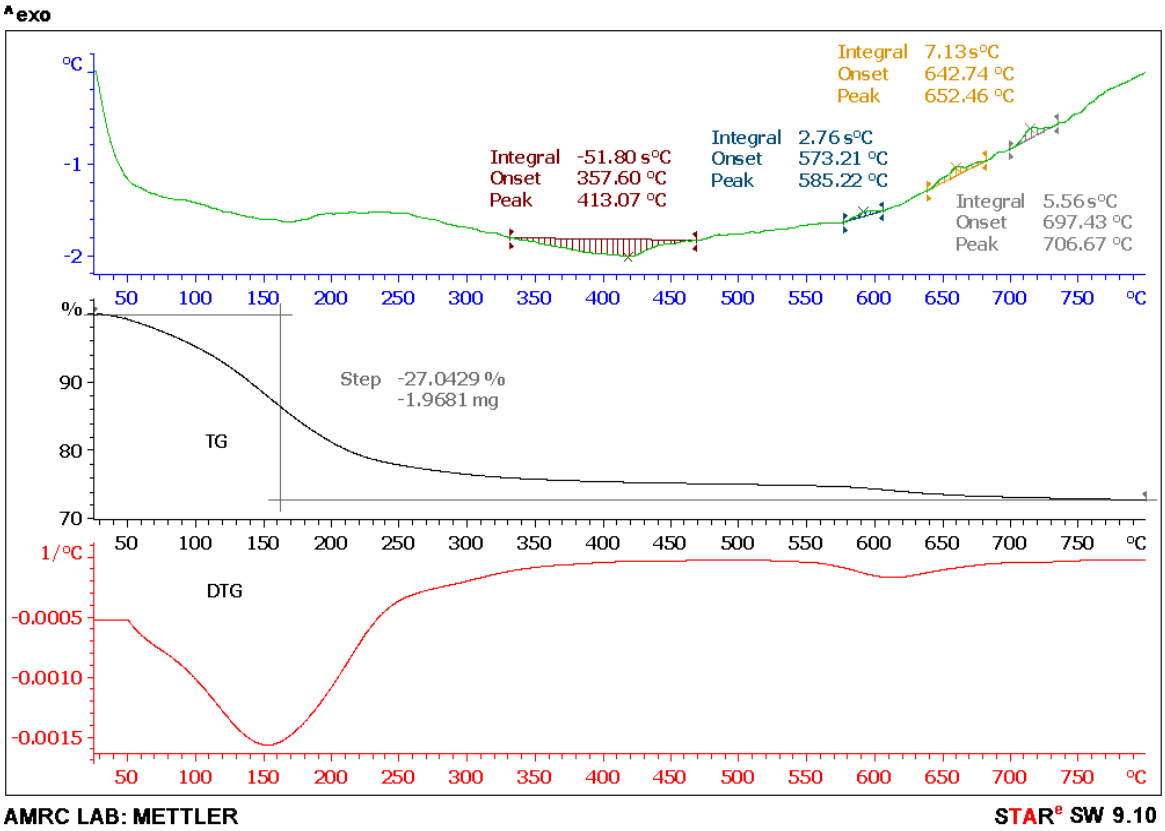

Fig S3 DTA and TGA thermogram curve of Zn-DYZ-28

peak associated with the collapse of the framework appears at a higher temperature, which confirms that the substituted Y zeolite has excellent thermal stability.