Supporting Information of

Polymethylacrylic acid-induced fabrication of hollow $hZrO_2/g\text{-}C_3N_4$ composite photocatalysts：Study on solar photocatalytic performance and mechanism insight

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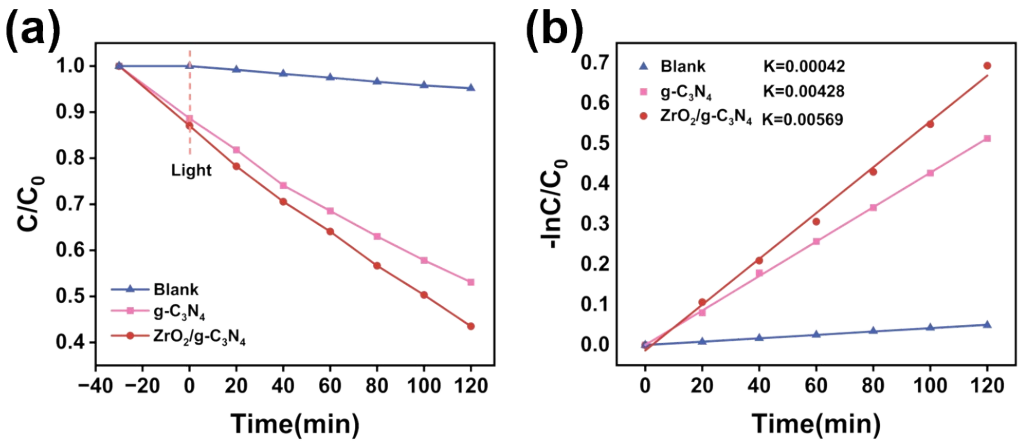

Fig. S1. (a) Photocatalytic degradation plots of MB over g-C_3N_4, ZrO_2/g-C_3N_4 under full-spectrum illumination, (b) the curves of $-\ln(C/C_0)$ against the reaction time.

The conduction band (CB) and valence band (VB) positions of g-C_3N_4 and ZrO_2 could be determined using the following functions[1]:

$$E_{VB} = \chi - E_e + 0.5E_g \quad (1)$$

$$E_{CB} = E_{VB} - E_g \quad (2)$$

where E_e is the energy of free electrons on the hydrogen scale (4.5 eV vs NHE), E_g is the band gap, E_{CB} and E_{VB} are CB and VB potentials, and χ is the absolute electronegativity of the semiconductor. The χ values of g-C_3N_4 and ZrO_2 are 4.73 and 5.91 eV based on the literature[2], respectively.

Table S1 The χ, E_{CB}, E_{VB} and E_g for g-C_3N_4 and ZrO_2.

Sample	□□χ (eV)	E_{CB} (eV)	E_{VB} (eV)	E_g (eV)
g-C_3N_4	4.73	□□-1.19	1.71	2.9
ZrO_2	5.91	□□-0.91	3.79	4.7

References

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