Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Probing Size-Dependent Defects in Zinc Oxide using Synchrotron Techniques: Impact on Photocatalytic Efficiency

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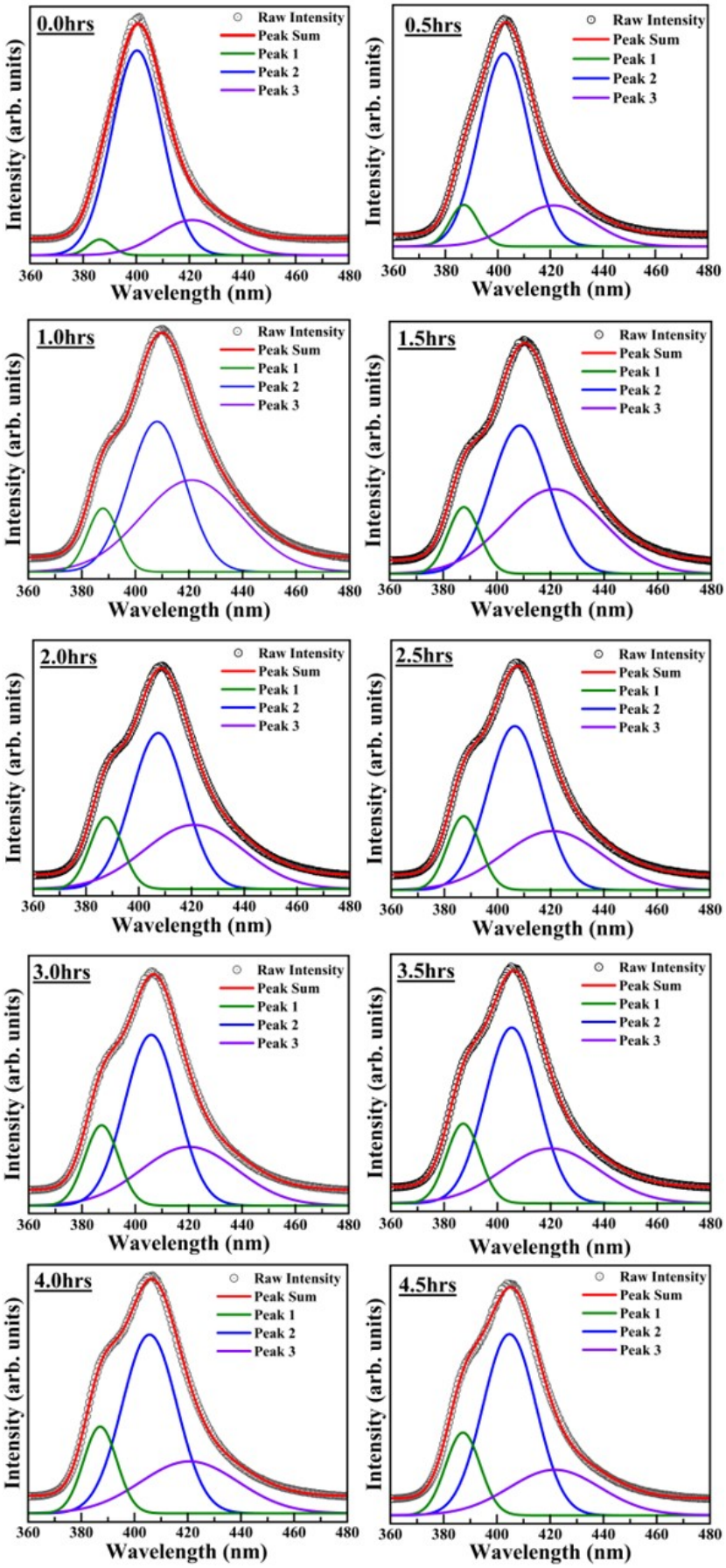

Fig. S1. Deconvoluted NBGE peak obtained after different excitation time with 9669 eV X-ray energy.

Time (hours)	Peak 1	Peak 2	Peak 3	X^2
0.0	387.3	400.3	421.1	2.938×10^{-4}
0.5	387.2	402.6	421.4	4.206×10^{-4}
1.0	387.9	408.1	421.0	3.779×10^{-4}
1.5	387.7	408.6	421.3	2.365×10^{-4}
2.0	387.6	407.4	420.9	2.067×10^{-4}
2.5	387.3	406.5	420.7	1.821×10^{-4}
3.0	387.4	406.0	420.5	1.759×10^{-4}
3.5	387.4	405.7	420.5	2.001×10^{-4}
4.0	387.3	405.4	420.7	1.812×10^{-4}
4.5	387.3	404.7	421.7	2.521×10^{-4}

Table I: Peak positions of the deconvoluted gaussian peaks of the NBGE peak in M-ZnO for different excitation time at 9669.0 eV synchrotron X-ray energy excitation.

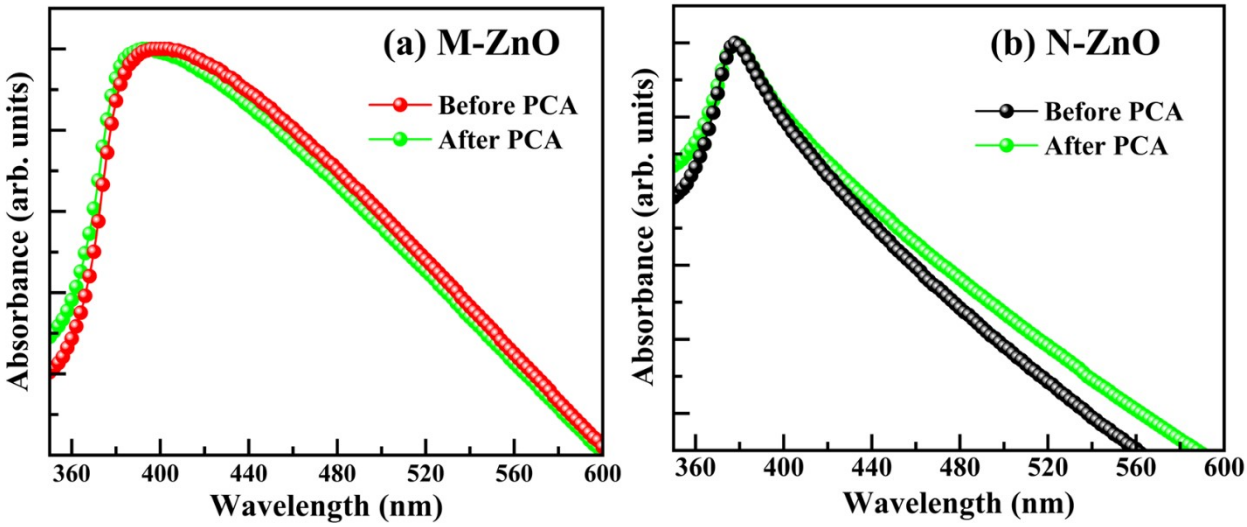

Fig. S2. Observed UV-Visible spectra of (a) M-ZnO and (b) N-ZnO collected before and after performing the photocatalytic activity using RhB dye.

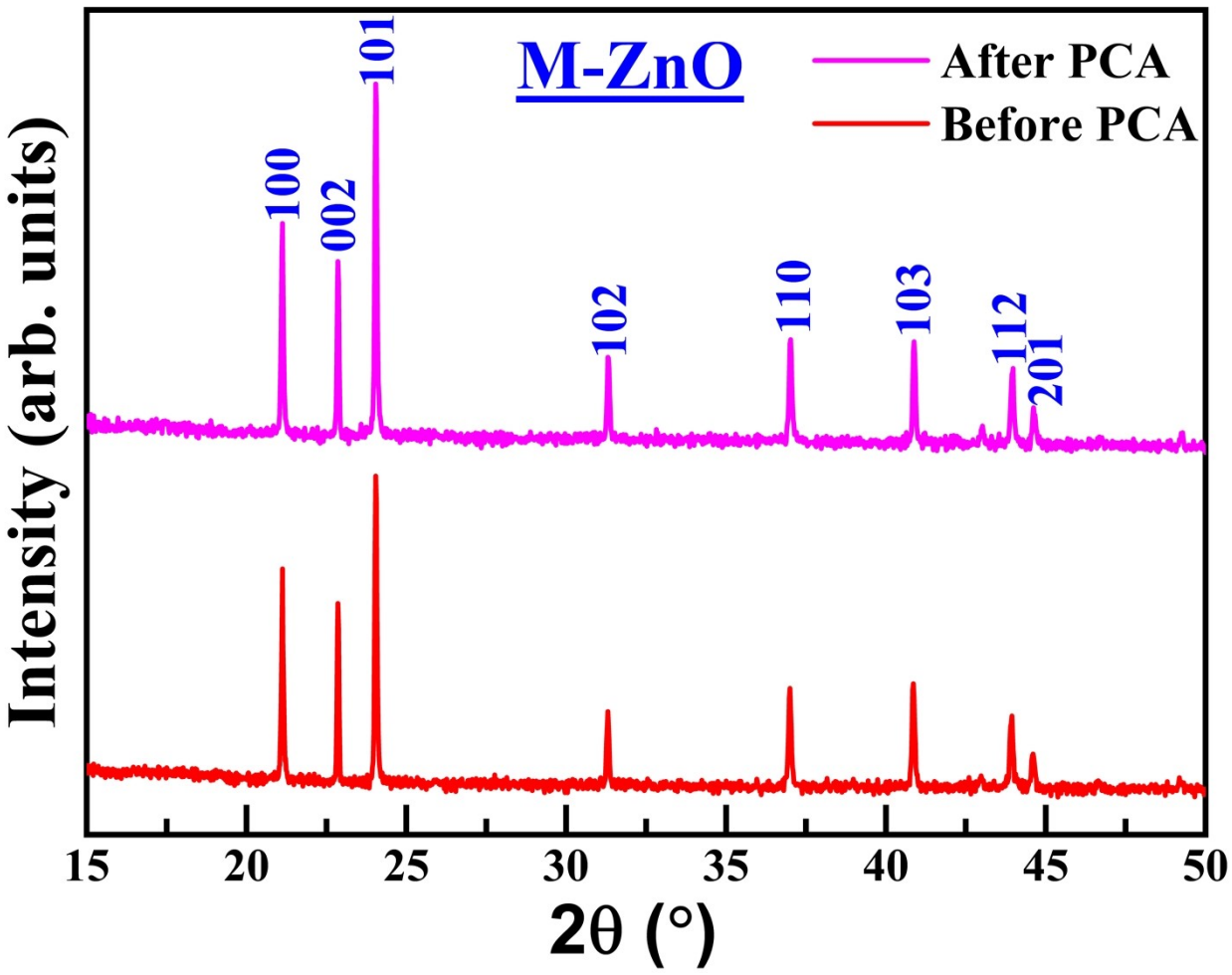

Fig. S3. The collected X-Ray diffraction spectra of M-ZnO obtained before and after investigating the photocatalytic activity (PCA) with Rhodamine B dye.

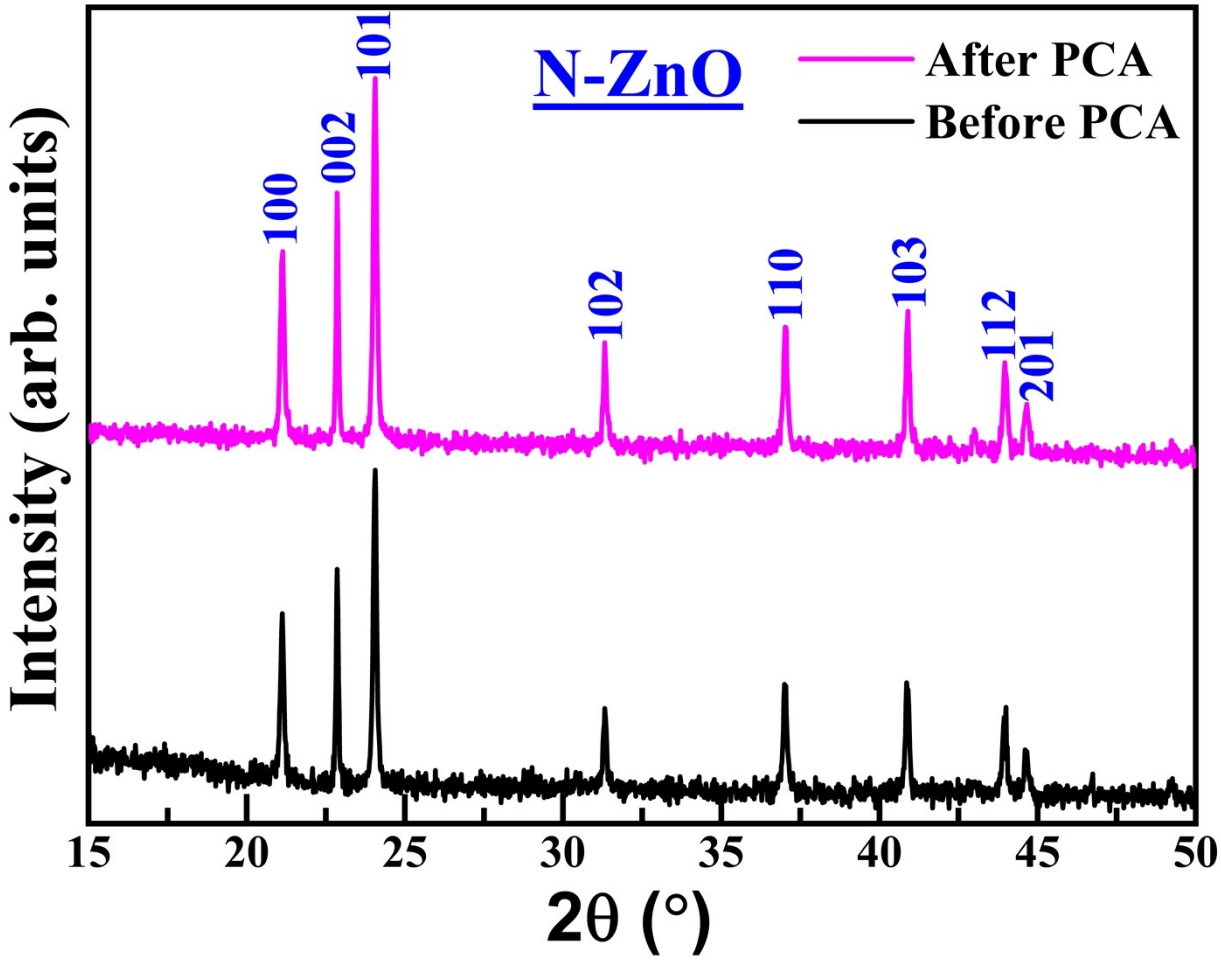

Fig. S4. The collected X-Ray diffraction spectra of N-ZnO obtained before and after investigating the photocatalytic activity (PCA) with Rhodamine B dye.