Electronic Supplementary Material (ESI) for Materials Advances.

Photocatalytic behavior of Zinc gallate and N-doped Zinc gallate thin films

Premrudee Promdet [a], Claire J. Carmalt [a] and Ivan P. Parkin [a] *

[a] Materials Chemistry Centre, Department of Chemistry, University College London, 20 Gordon Street, London WC1H 0AJ, UK

Fax: (+44) 20-7679-7463
E-mail: i.p.parkin@ucl.ac.uk

Supporting Information

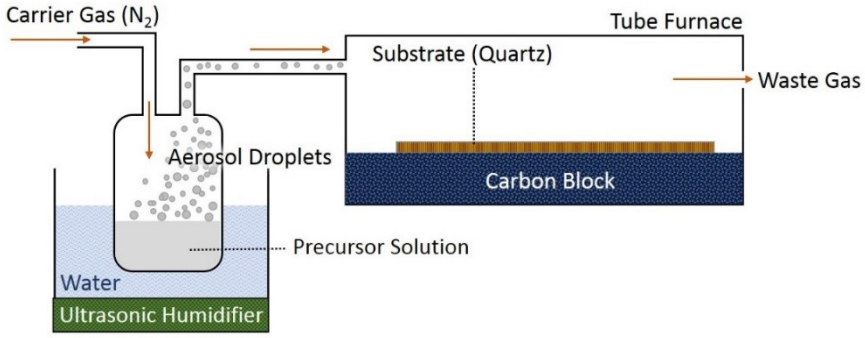

Fig. S1 The illustration of principle of AACVD operation used for zinc gallate deposition.

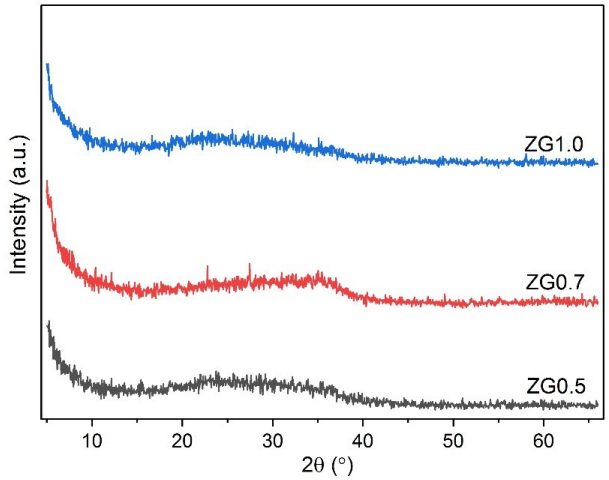

Fig. S2 XRD patterns of amorphous thin films of **ZG1.0**, **ZG0.7,** and **ZG0.5**, prepared by AACVD method at different mole ratios between Zn/Ga in the precursor mixture of 1, 0.7, and 0.5, respectively, which the films at 400 °C by AACVD.

Table S1 Energy separation between the Zn $2p_{3/2}$ and Ga $2p_{3/2}$ peaks of amorphous thin film

Sample	Ga($2p_{3/2}$) - Zn($2p_{3/2}$) (energy separation) (eV)	
	Before annealing	After annealing
ZG-0.45	96.2	96.1
ZG-0.26	96.2	96.2
ZG-0.17	96.1	96.2

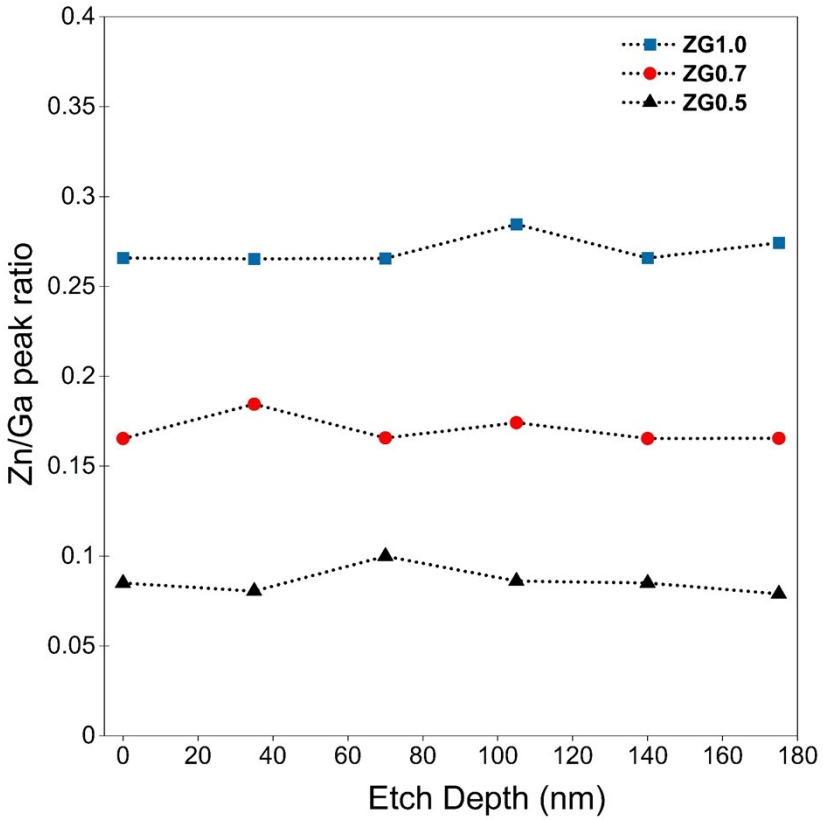

Fig. S3 Mole ratio between Zn/Ga profiled by a JEOL6301 XPS instrument of as-deposited samples (**ZG**-0.45, **ZG**-0.26 and **ZG**-0.17, respectively) deposited by AACVD method at different mole ratios between Zn/Ga in the precursor mixture of 1, 0.7 and 0.5, respectively