

## Supporting Information

### Construction of dual direct Z- scheme NiAl LDH/g-C<sub>3</sub>N<sub>4</sub>/Ag<sub>3</sub>PO<sub>4</sub> nanocomposite for enhanced photocatalytic overall water splitting

*S. Megala<sup>a</sup>, P. Ravi<sup>b,c</sup>, P. Maadeswaran<sup>d</sup>, M. Sathish<sup>b,c</sup>, R. Ramesh<sup>a\*</sup>*

<sup>a</sup>Department of Physics, Periyar University, Salem-636011, Tamil Nadu, India

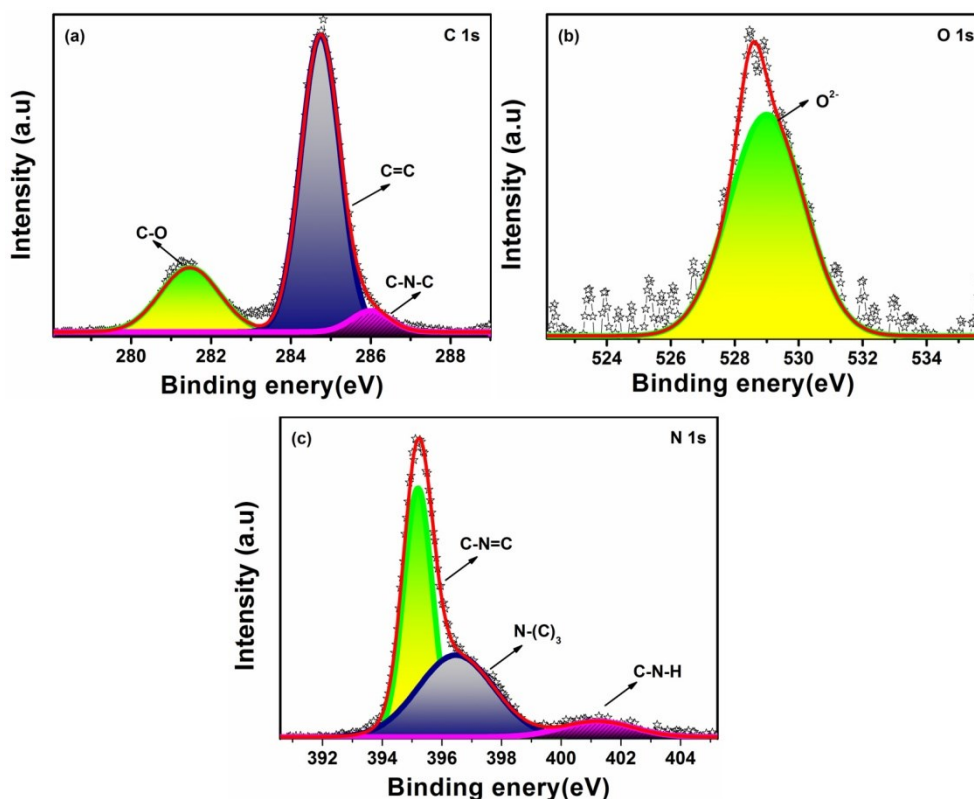
<sup>b</sup>Electrochemical Power Sources Division, Central Electrochemical Research Institute Karaikudi -630006, Tamil Nadu, India

<sup>c</sup>Academy of Scientific and Innovative Research (AcSIR), Ghaziabad-201002, India

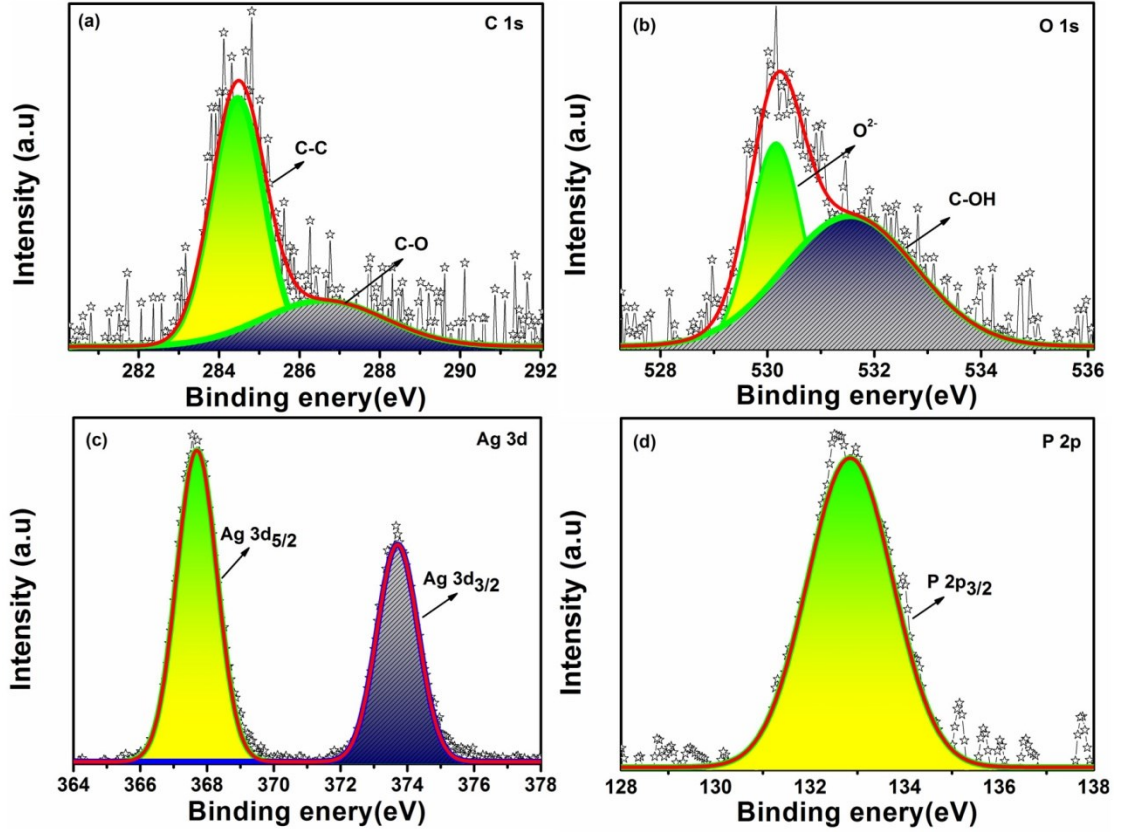
<sup>d</sup>Department of Energy Science, Periyar University, Salem-636011, Tamil Nadu, India

\*Corresponding author.

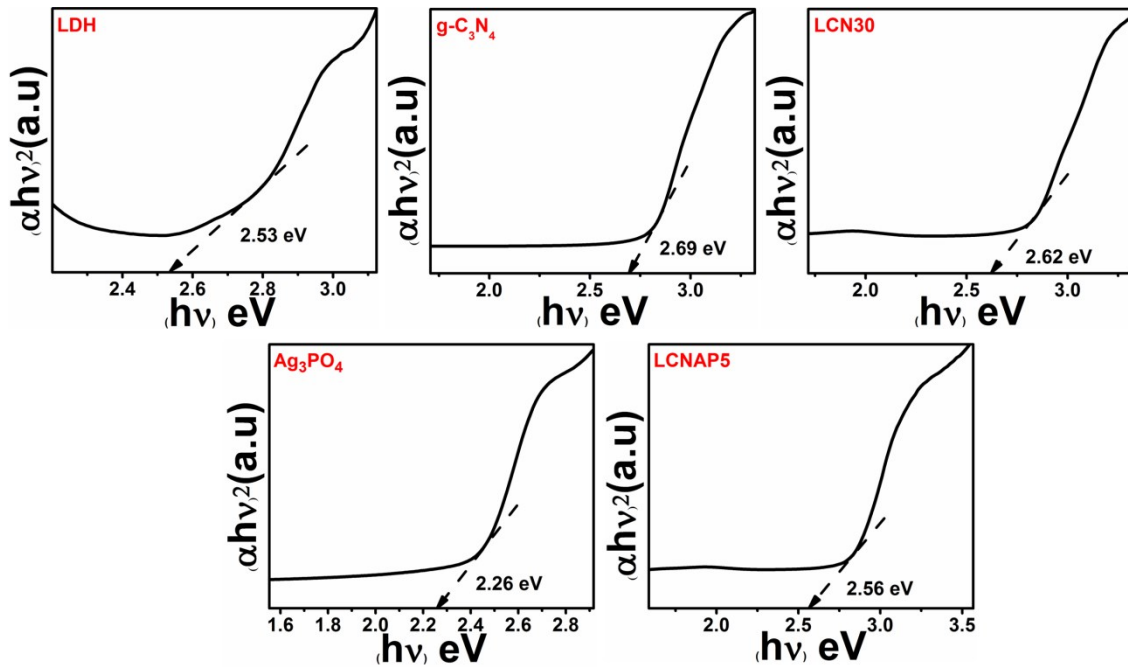
E-mail address: [rameshphys@gmail.com](mailto:rameshphys@gmail.com)



**Fig. S1** High resolution XPS spectra of pure g-C<sub>3</sub>N<sub>4</sub> for (a) C1s, (b) O 1s, and (c) N 1S.



**Fig. S2** High resolution XPS spectra of pure  $\text{Ag}_3\text{PO}_4$  for (a) C 1s, (b) O 1s, (c) Ag 3d, and (d) P 2p.



**Fig. S3** Tau plots of NiAl LDH,  $\text{g-C}_3\text{N}_4$ ,  $\text{Ag}_3\text{PO}_4$  and LCN30, LCNAP nanocomposites.