

## Electronic Supplementary Information (ESI)

### **Recrystallization techniques for the synthesis of ZnO nanorods: An *in situ* process for carbon doping and enhancing the dispersion concentration of ZnO nanorods**

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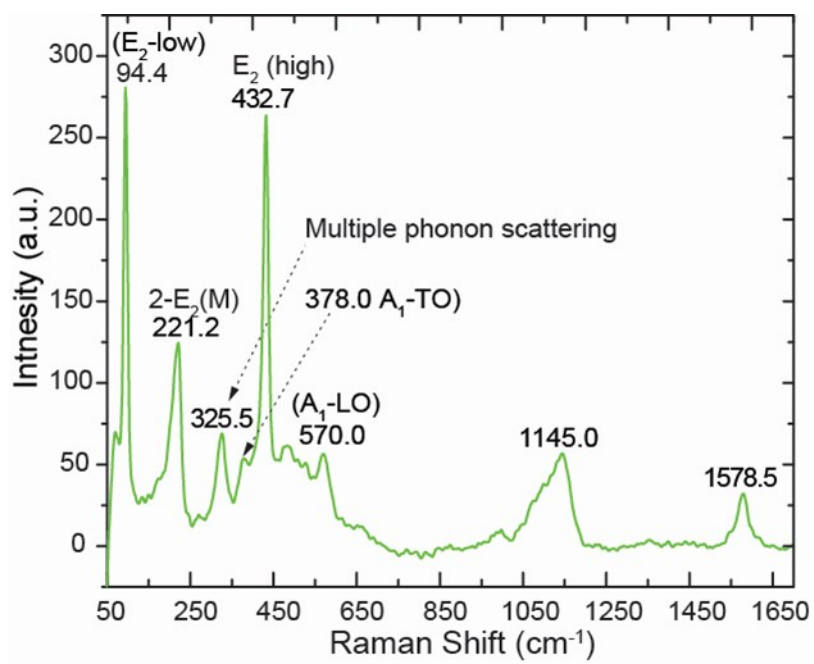
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**Figure S1.** Raman spectra of ZnO nanorods

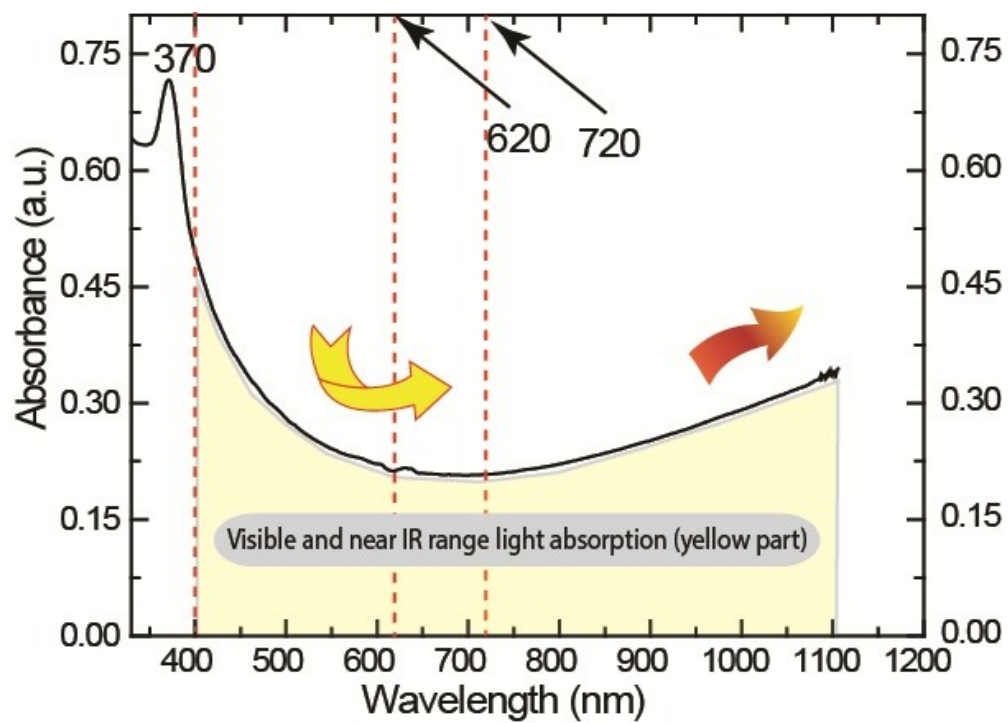


Figure S2. Raman spectra of ZnO nanorods. Yellow marked part shows the visible and near infra red (NIR)

Table S1. Comparison of dispersion concentration of ZnO nanoparticles

Dispersion Concentration, mg/ml	Time for sonication or Stirring or treatment (in min)	Assisting materials	Solvent
0.1-0.2 <sup>8</sup>	60	Sonication + Phosphate buffer solution + polymer	Water
0.08 <sup>33</sup>	180	Stirring	Ethanol
0.07 <sup>57, 58</sup>	120	Sonication only	Dicromethane Chloroform Chlorobenzene
0.02 <sup>3</sup>	60	Sonication+ Dispersant (ammonium polymethacrylate)	Water
0.02 <sup>29</sup>	180	Sonication + Zirconium phosphate + Epoxy polymer	Polymer
0.01 <sup>32</sup>	30	Sonication + Buffering agent + organic matter	Water + organic matter
0.01 <sup>26</sup>	-	Sonication + Organic matter	Water
0.05-0.10 <sup>30</sup>	30	Sonication + Buffer agent and sonication	Water
0.001- 0.02 <sup>9</sup>	20	Sonication + CO <sub>2</sub> + Buffer,	Water
0.01 <sup>27</sup>	-	Sonication + Organic Materials	Water
0.001 <sup>20</sup>	60	Sonication, stirring, PH controlling, Surfactant	Water
<b>1.2 (Our work)</b>	<b>5</b>	<b>Sonication only</b>	<b>Ethanol</b>