

Supporting Information

Visible-light excited red emitting luminescent nanocomposites derived from Eu³⁺-phenanthrene-based fluorinated β -diketonate complex and multi-walled carbon nanotubes

V. Divya and M. L. P. Reddy*

*Chemical Sciences and Technology Division, CSIR-Network of Institutes for Solar Energy,
National Institute for Interdisciplinary Science & Technology (NIIST), CSIR,
Thiruvananthapuram-695 019, India*

E-mail: mlpreddy55@gmail.com

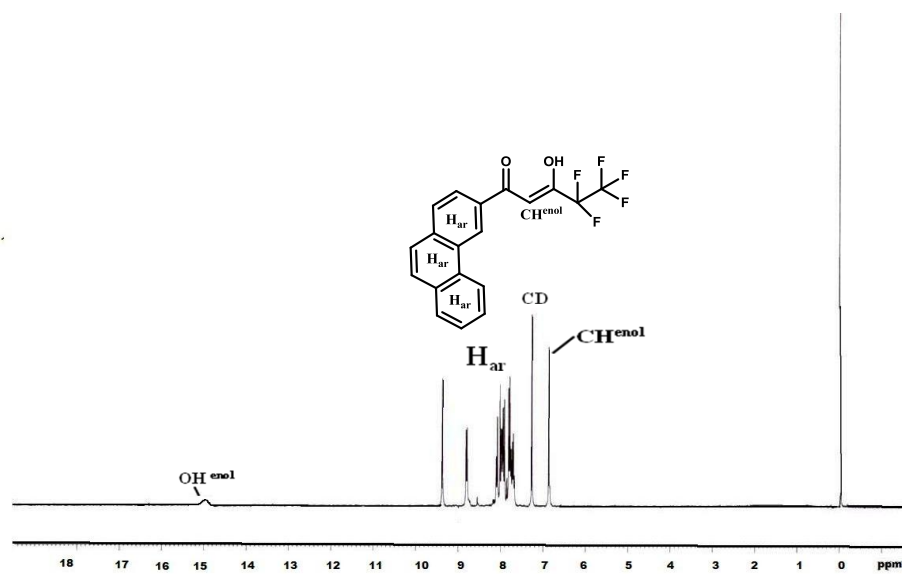


Fig. S1 ^1H NMR spectrum of the ligand Hpfppd in CDCl_3 .

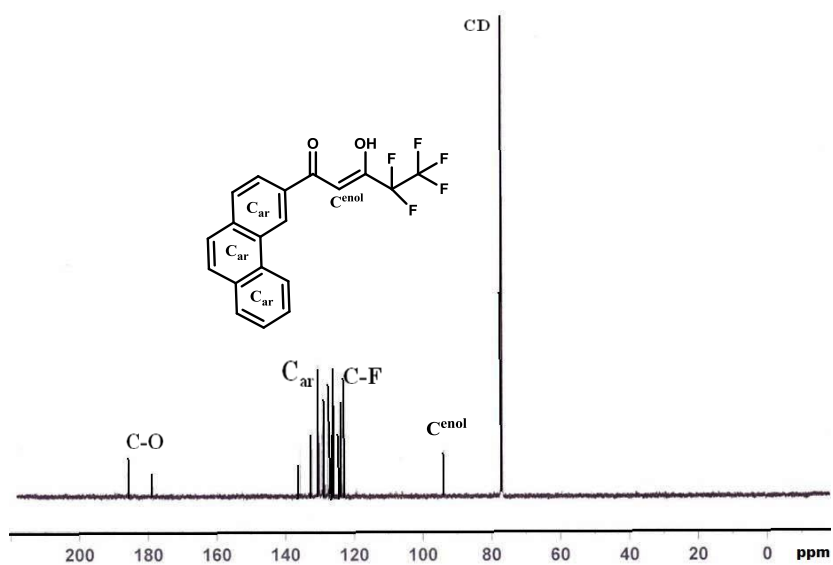


Fig. S2 ^{13}C NMR spectrum of the ligand Hpfppd in CDCl_3 .

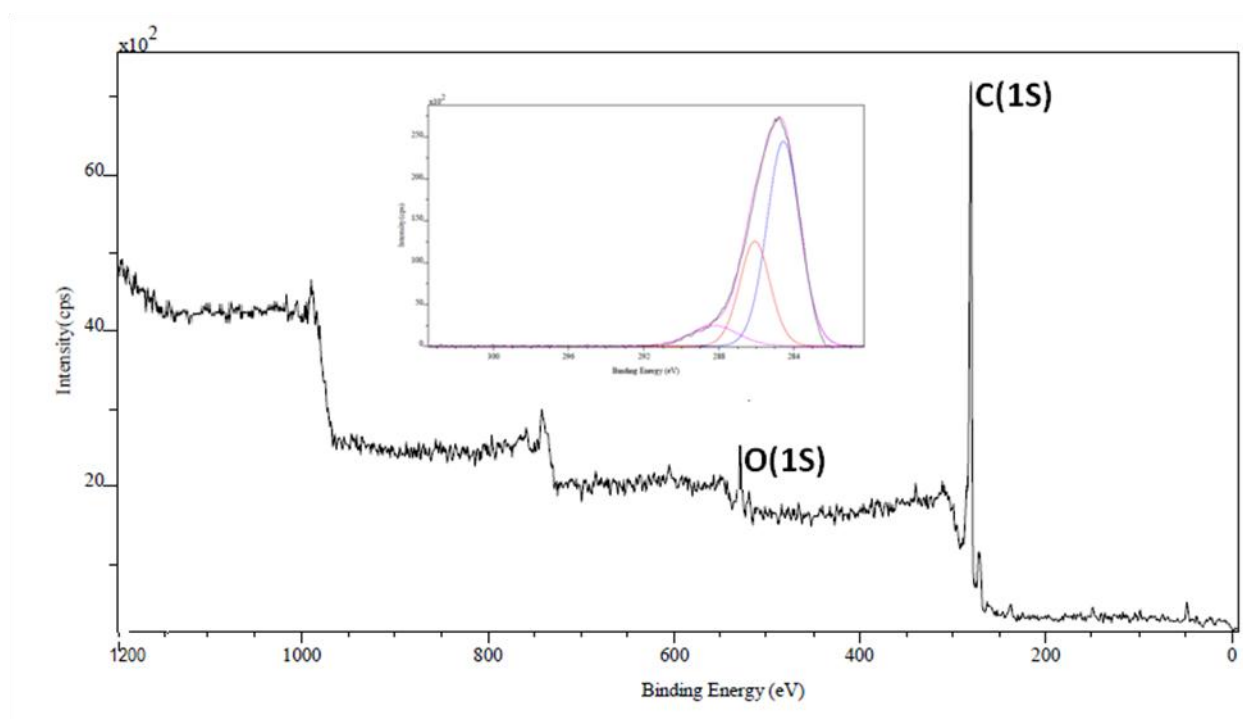


Fig. S3 XPS spectrum of MWCNTs.

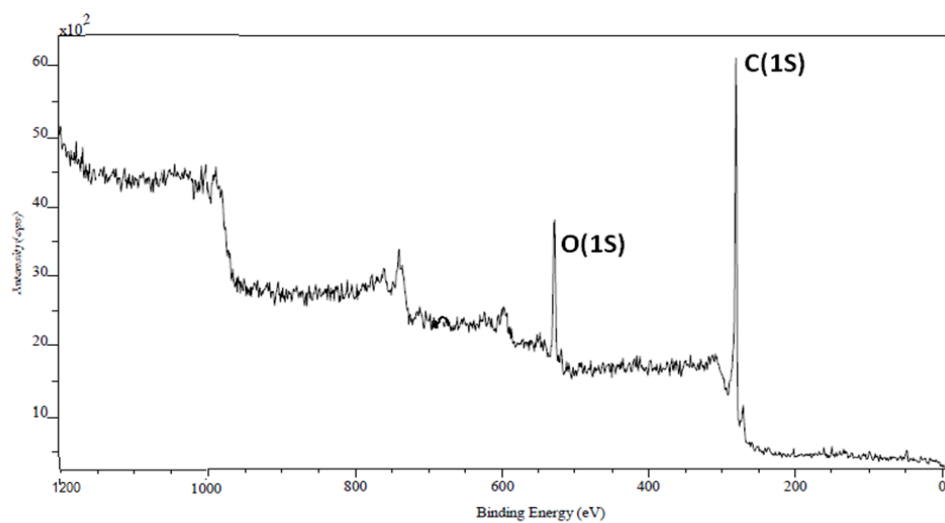


Fig. S4 XPS spectrum of *ox*MWCNTs.

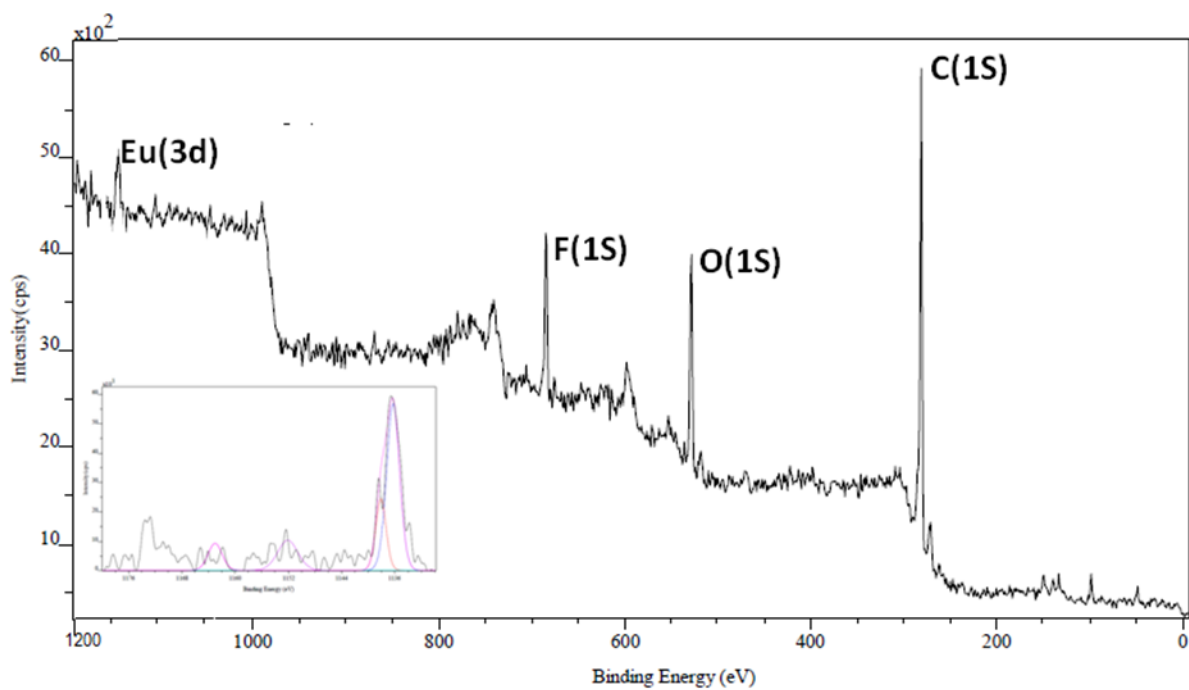


Fig. S5 XPS spectrum of **1**@oxMWCNTs.

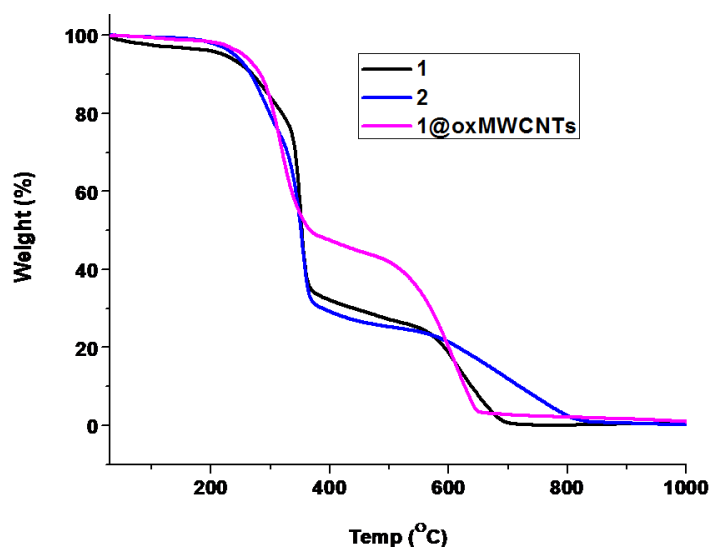


Fig. S6 TG curves for the **1**, **2** and **1**@oxMWCNTs.

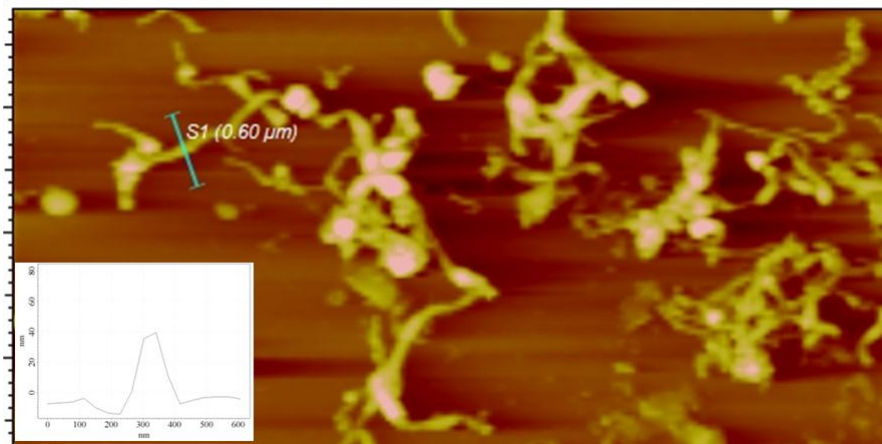


Fig. S7 AFM images of MWCNTs (inset figure shows the diameter distribution profile).

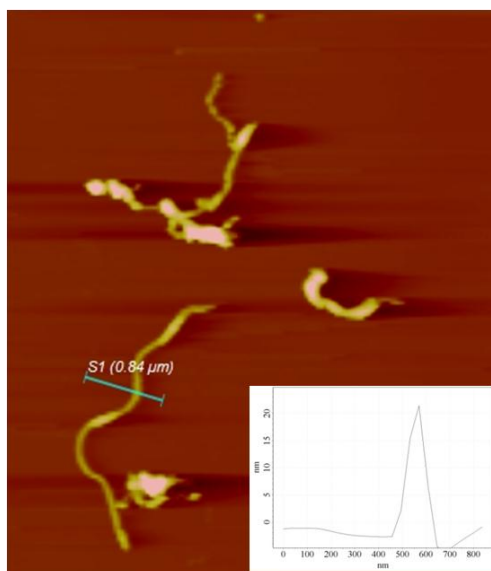


Fig. S8 AFM images of 1@oxMWCNTs (inset figure shows the diameter distribution profile).

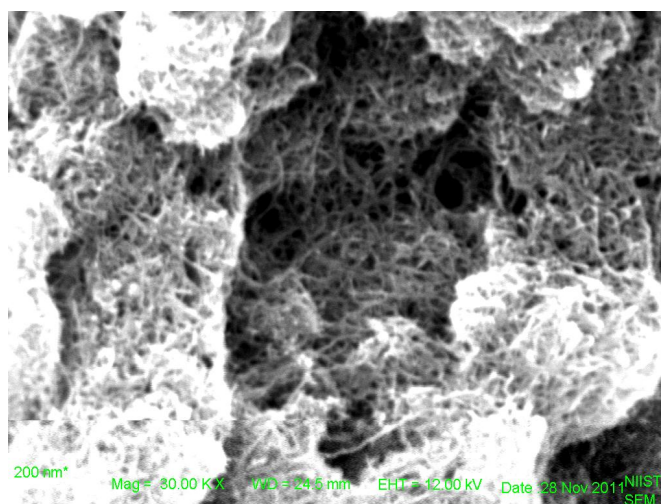


Fig. S9 SEM image of MWCNTs.

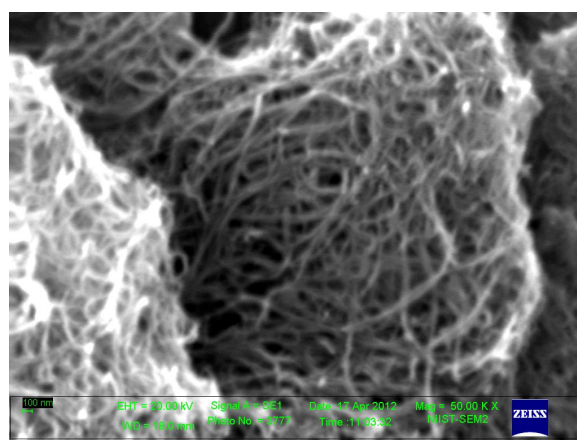


Fig. S10 SEM images of 1@oxMWCNTs.

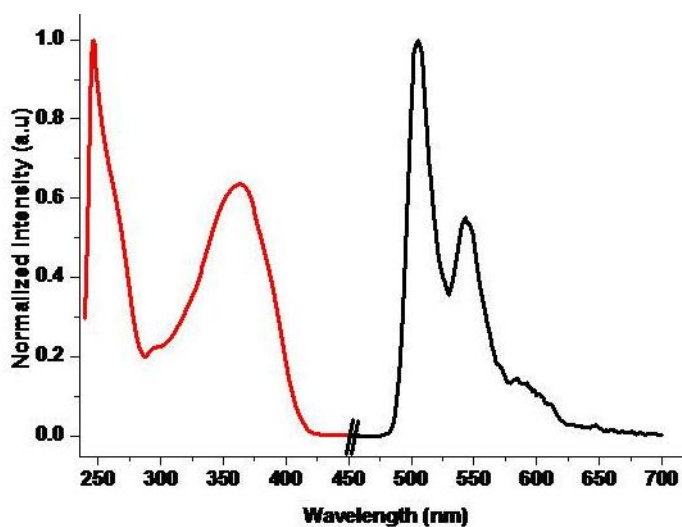


Fig. S11 UV-vis absorption spectrum at 298 K (left), and 77 K phosphorescence spectra (right) of the complexes **3** in THF ($c = 1 \times 10^{-5}$ M).

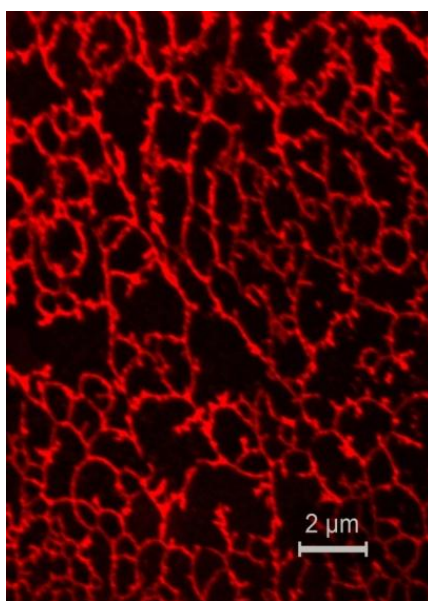


Fig. S12 Luminescence microscopic image of **1@oxMWCNTs** at $\lambda_{\text{ex}} = 365$ nm.