

Supporting Information

White-light-emitting triphasic fibers as a phosphor for light-emitting diodes

Weidong Han,¹ Su-Hyeong Chae,¹ Taewoo Kim,¹ Daewoo Lee,² and Hakyong Kim^{,1,2}*

¹ Department of BIN Convergence Technology, Jeonbuk National University, Jeonju 54896,
South Korea

² Department of Organic Materials & Fiber Engineering, Jeonbuk National University
Jeonju 54896, South Korea

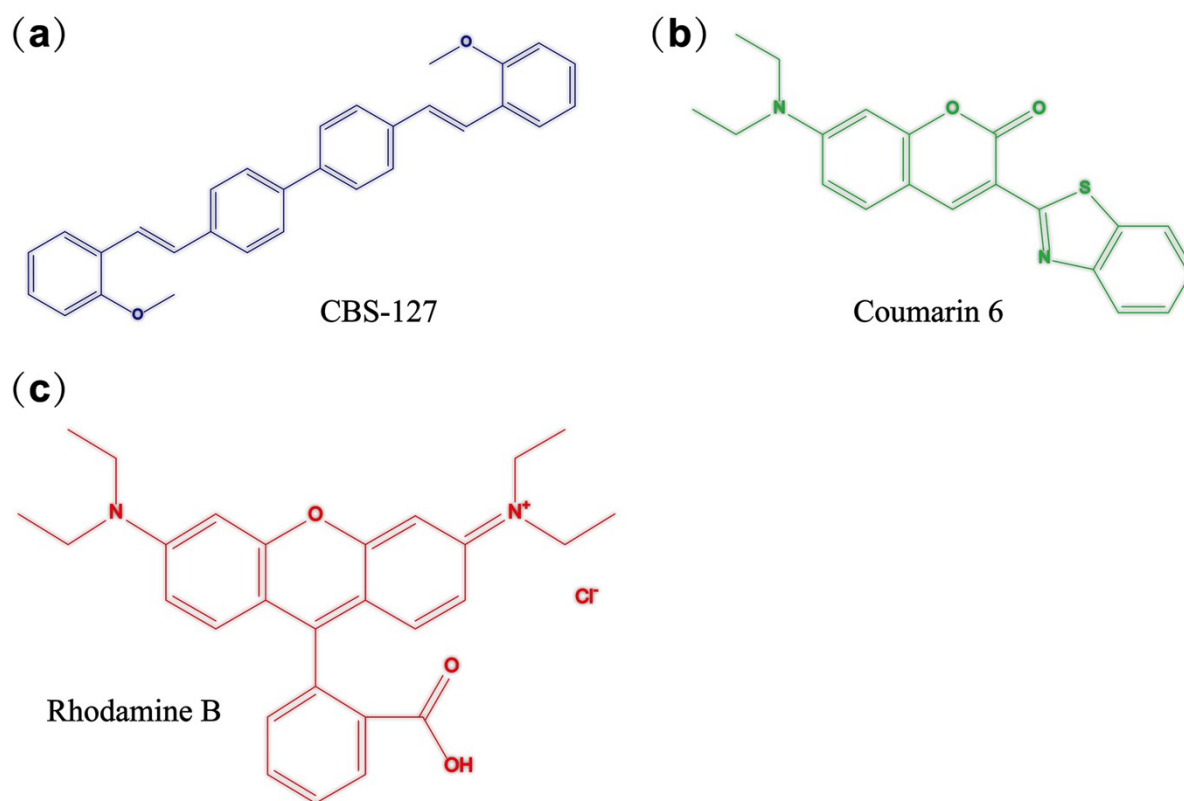


Figure. S1 Molecular structures of the blue-, green-, and red-emitting guests.

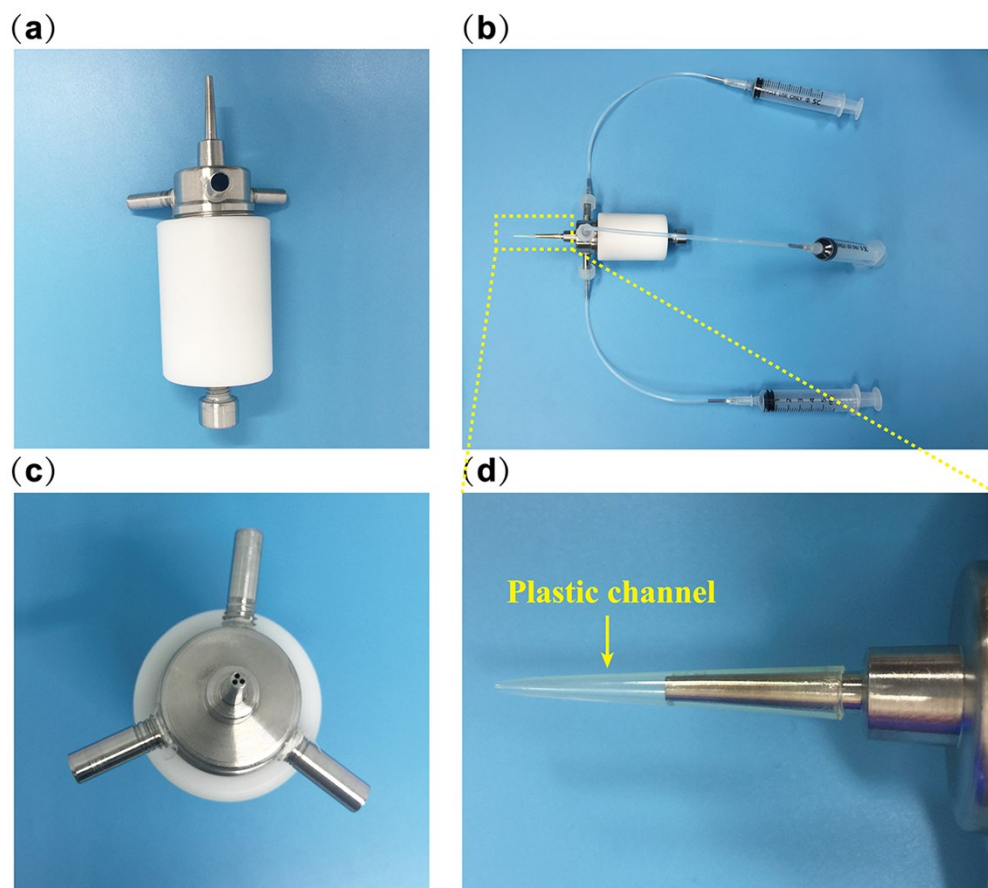


Figure. S2 (a, c) Front view and top view of the triple side-by-side spinneret. (b, d) The connection of the spinneret with the working fluids.

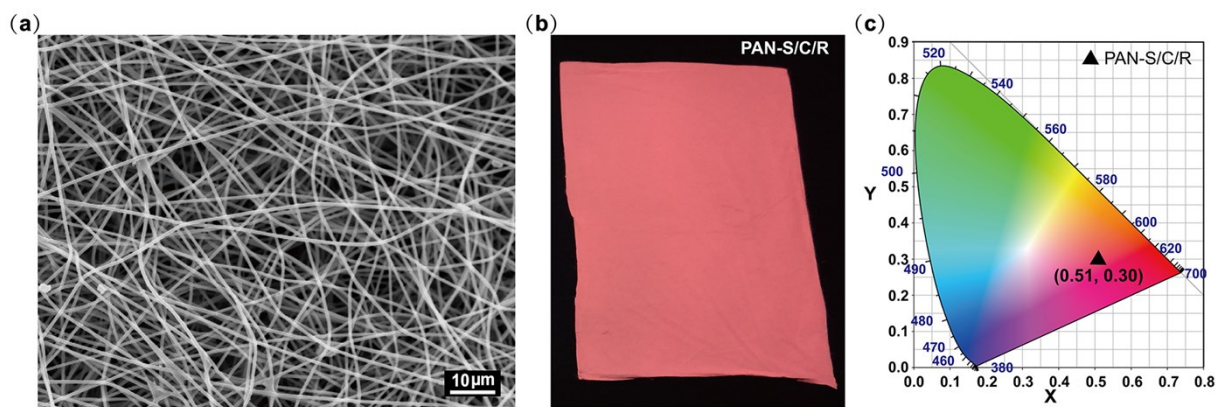


Figure. S4 (a) SEM image of PAN-S/C/R membrane. (b) Photograph of PAN-S/C/R membrane by UV lamp (365 nm). (c) CIE chromaticity diagram of PAN-S/C/R membrane.

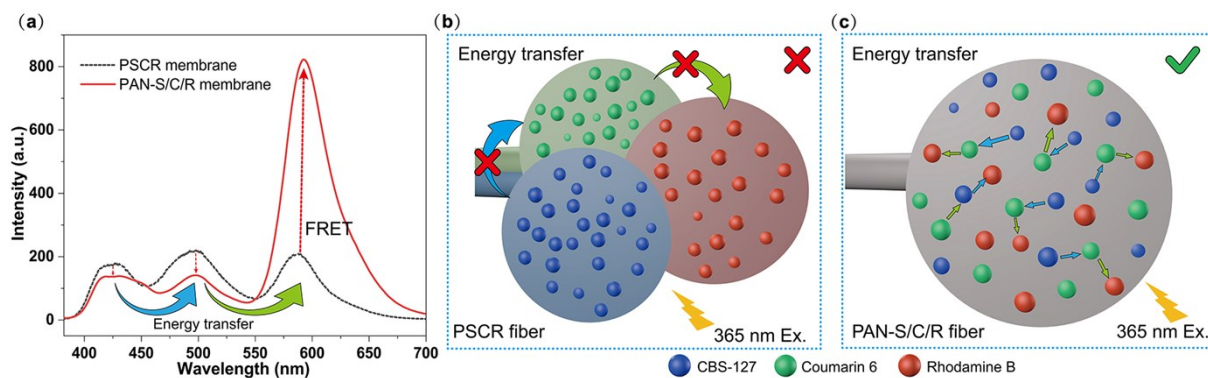


Figure. S5 (a) PL spectra of PSCR membrane and PAN-S/C/R membrane. (b, c) Schematic illustration of the encapsulation of CBS-127, Coumarin 6, and Rhodamine B into PMMA/PVP/PAN and PAN fiber and description of fluorescence resonance energy transfer processes of PSCR and PAN-S/C/R fiber when excited by UV light (365 nm).

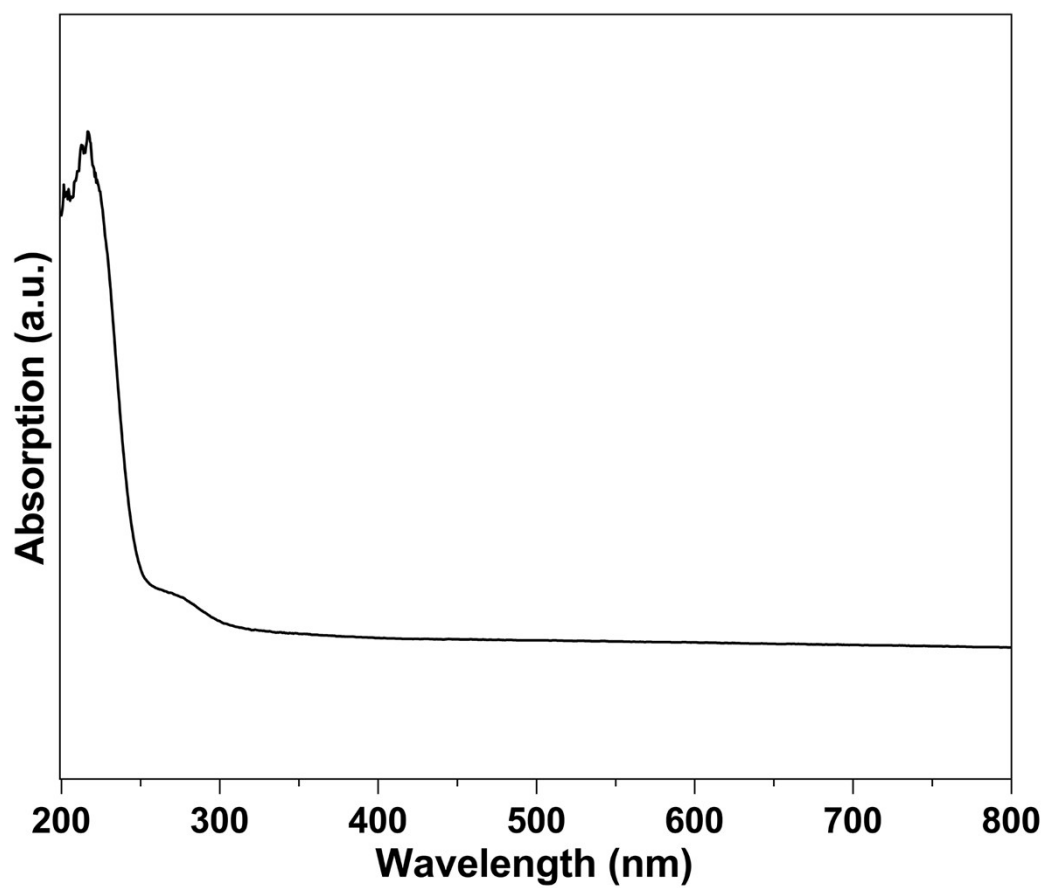


Figure. S6 UV-Vis absorption spectrum of PAN/PVP/PMMA membrane.

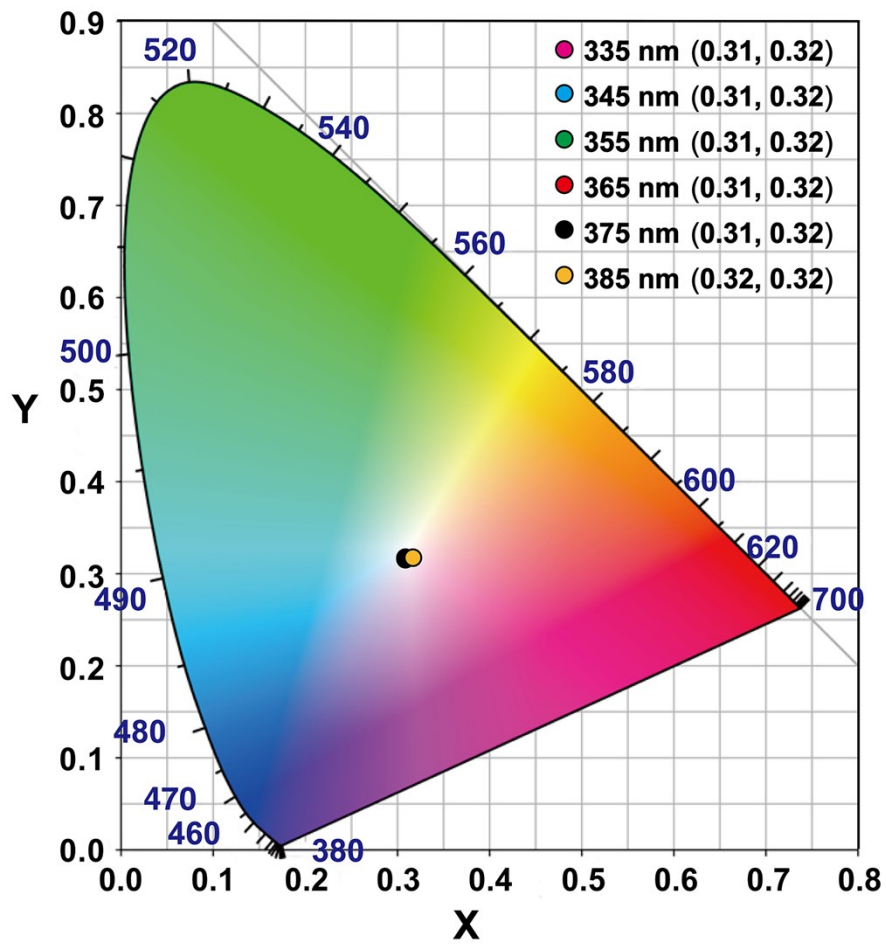


Figure. S7 CIE chromaticity diagram of PSCR fibrous membranes with excitation wavelengths varied from 325 to 385 nm.