

Description of Additional Supplementary Files

File Name: Supplementary Movie 1

Description: When excited with a 254 nm lamp, the PDNA sample emits a blue color. After switching-off of the lamp, sky-blue ultralong phosphorescence was clearly observed by the naked eyes. However, when changing the UV light from 254 to 365 nm, yellow persistent luminescence was visualized from the PDNA after the removal of the UV light.

File Name: Supplementary Movie 2

Description: This video demonstrates that when excited by a 254 nm lamp, the sample PDDBA can emit visible blue ultralong phosphorescence. After turning off the excitation source of 310 nm, the transparent polymer film shows green long-lived emission.