

Electronic Supporting Information

**A detailed investigation on light-harvesting efficiency of blue color emitting
divergent iridium dendrimers with peripheral phenylcarbazole units**

Yang-Jin Cho, Kyung-Ryang Wee, Ho-Jin Son, Dae Won Cho, and Sang Ook Kang**

Department of Advanced Materials Chemistry, Korea University (Sejong Campus), Sejong 339-700, Korea.

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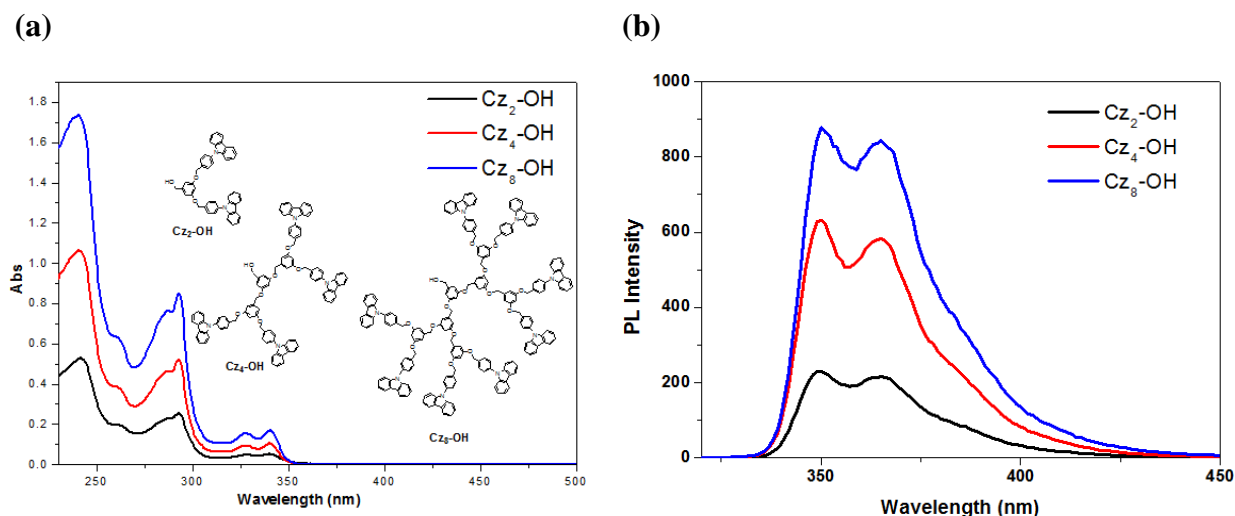


Fig. S1. (a) Absorption and (b) emission spectra of the $\text{Cz}_n\text{-OH}$ ($n = 2, 4$, and 8) in $4 \mu\text{M}$ CH_2Cl_2 at the room temperature (excited at 290 nm).

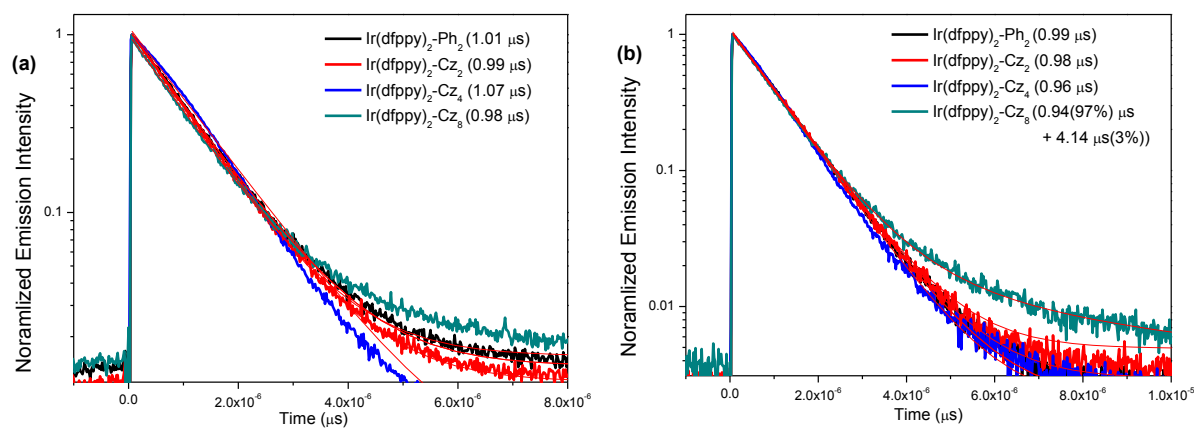


Fig. S2. Phosphorescence decay profiles monitored at 500 nm for $\text{Ir}(\text{dfppy})_2(\text{pic-Ph}_2)$ and $\text{Ir}(\text{dfppy})_2(\text{pic-Cz}_n)$ ($n = 2, 4$, and 8) in Ar-saturated CH_2Cl_2 at room temperature: (a) excited at 309 nm, and (b) excited at 416 nm.

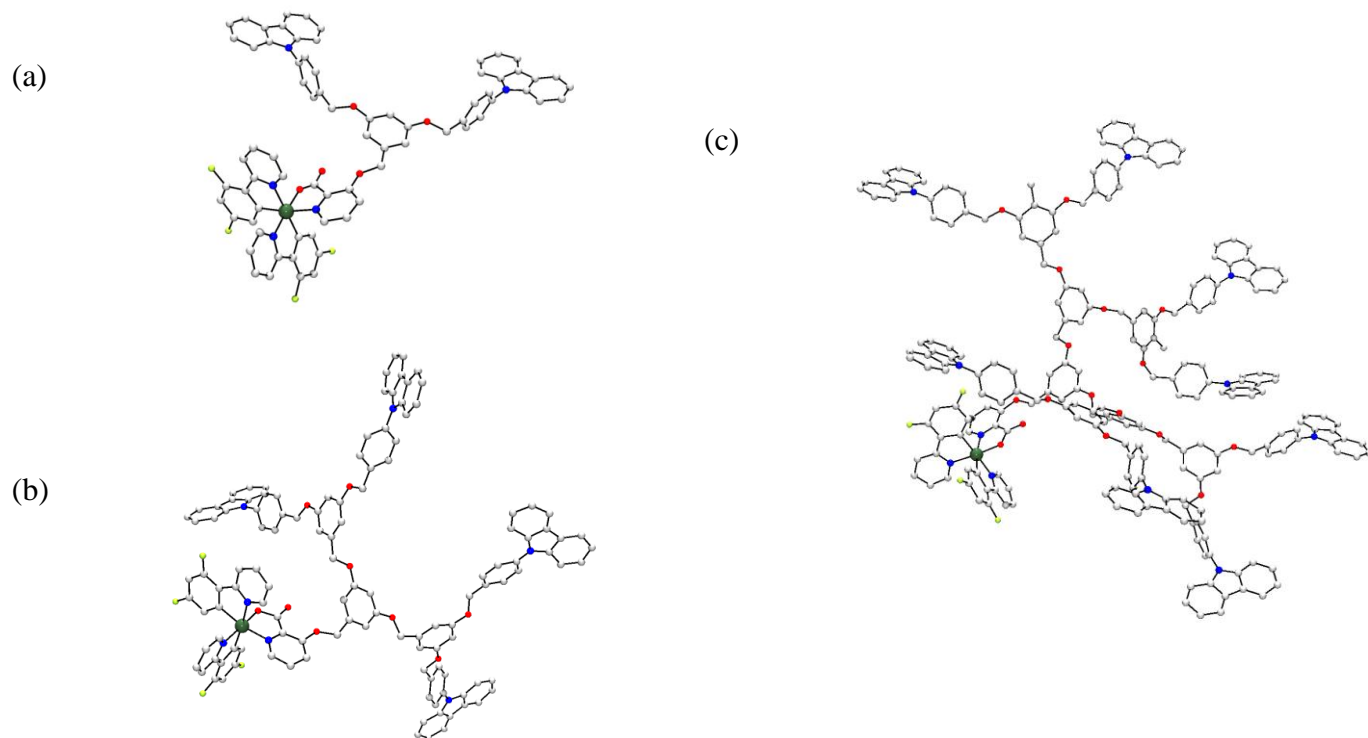


Fig. S3. Optimized molecular structures of **Gn** ($n = 1, 2$, and 3) using the semi-empirical calculation (PM3 method) (a) **G1**, (b) **G2**, (c) **G3**.

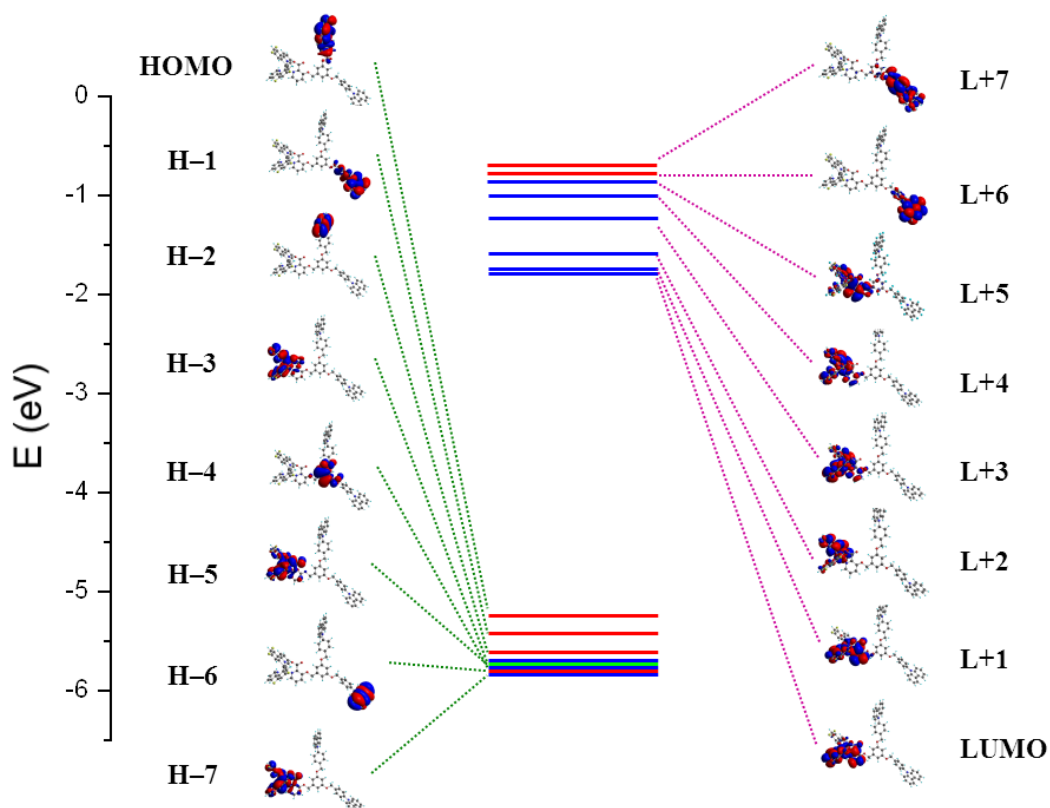


Fig. S4. Energy levels and isodensity plots for selected occupied and unoccupied molecular orbitals of **G1**.