

Supplementary Information

Effect of co-ligand number on the optoelectronic properties of first- and second-generation heteroleptic green emissive iridium(III) complex-cored dendrimers

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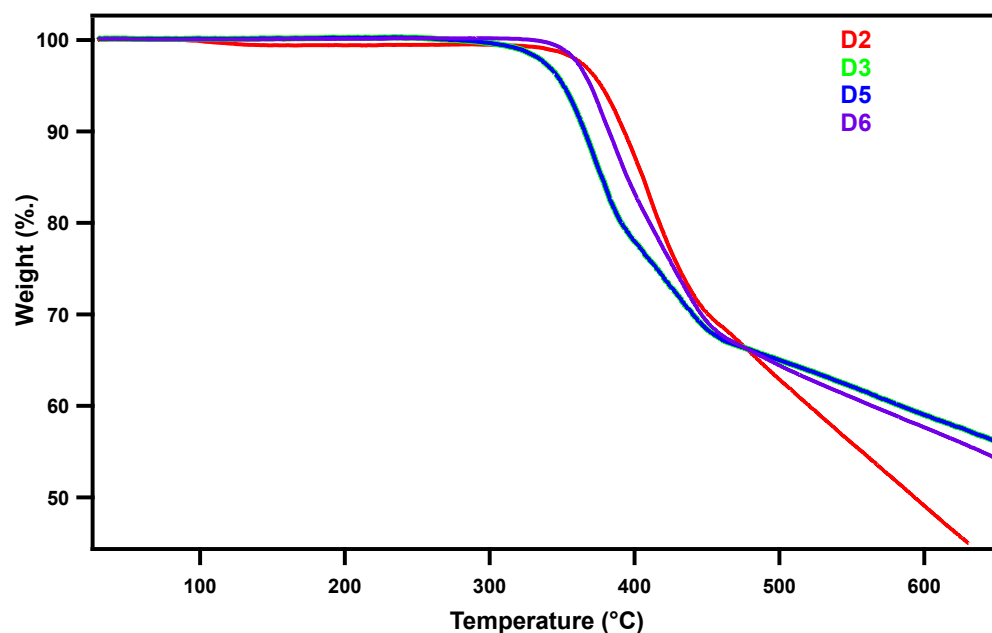
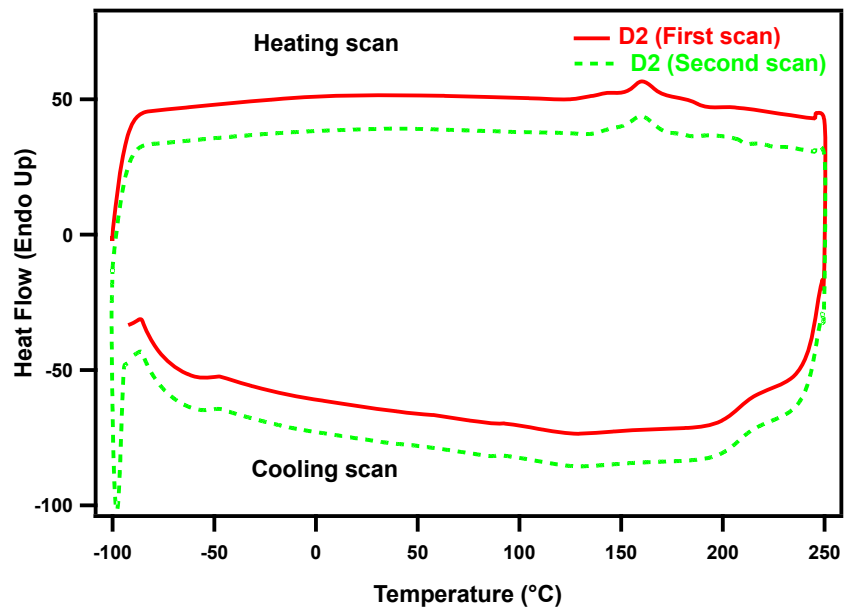
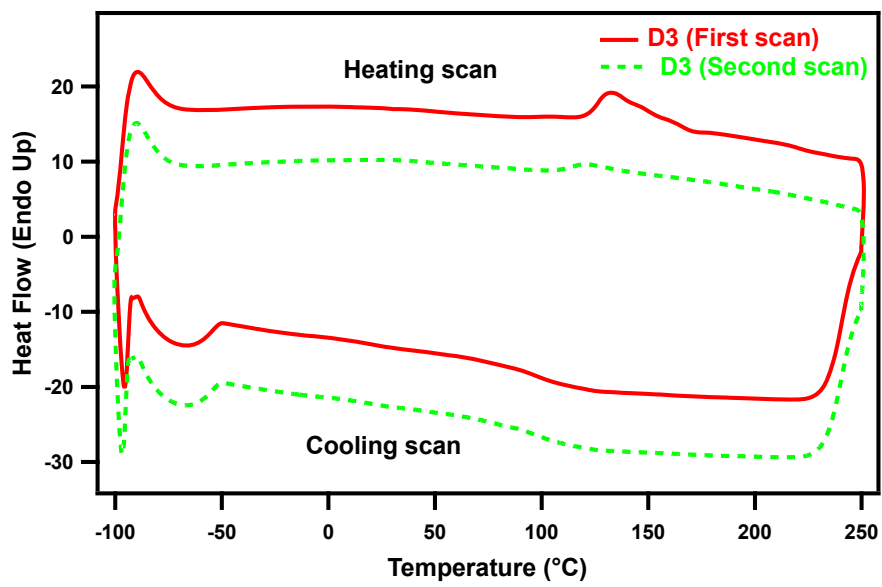


Fig. S1. TGA analysis of the dendrimers **D2**, **D3**, **D5** and **D6**. Note the traces of **D3** and **D5** overlap.

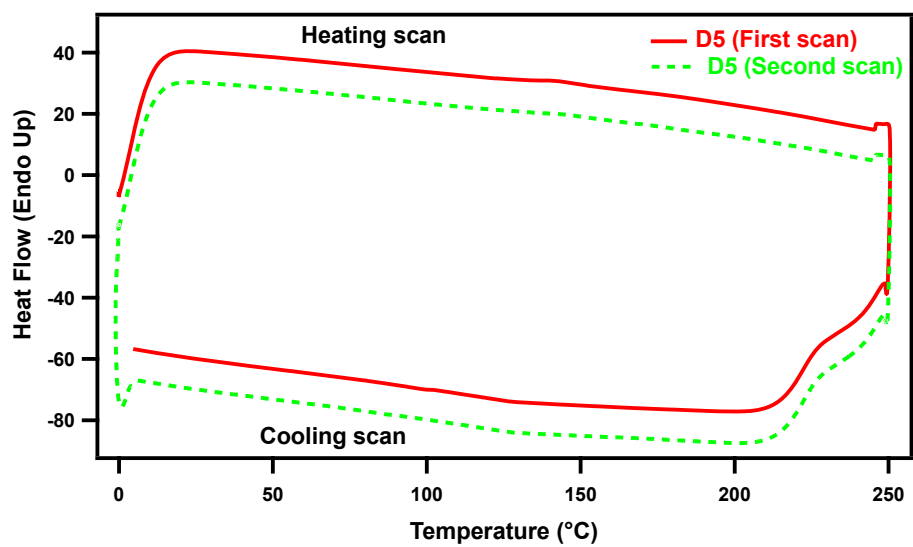
(a)



(b)



(c)



(d)

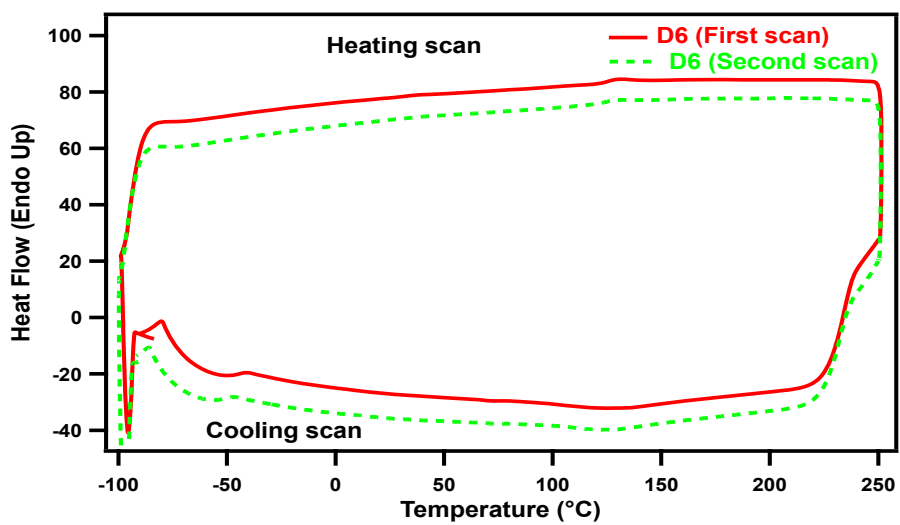


Fig. S2. DSC chromatogram of the dendrimers (a) D2, (b) D3, (c) D5 and (d) D6.

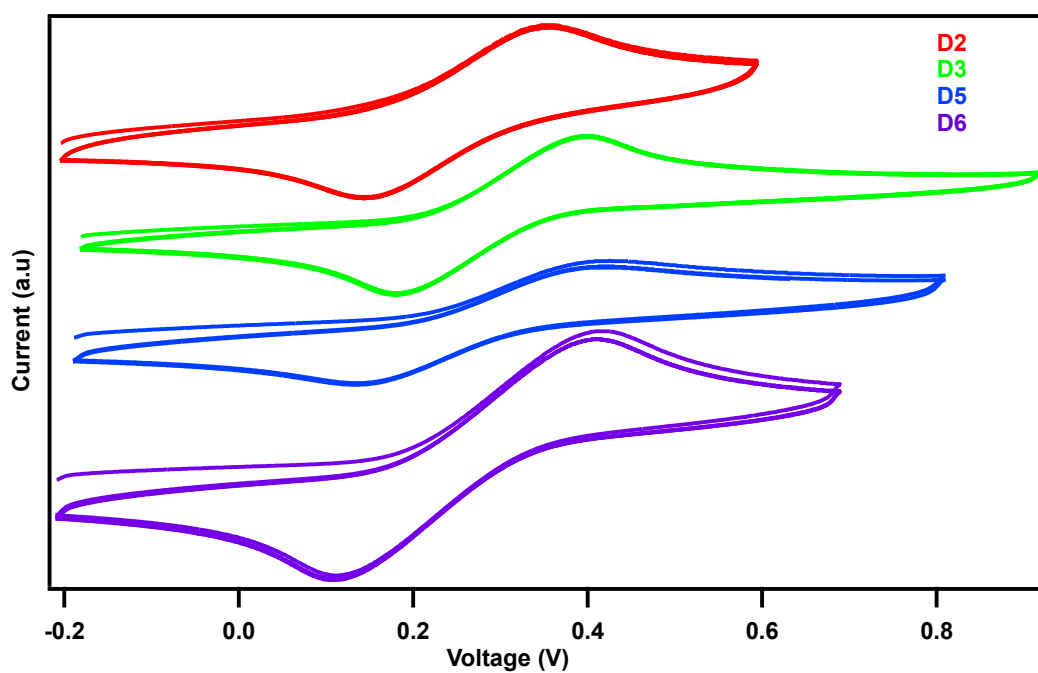


Fig. S3. Oxidation cyclic Voltammograms of the dendrimers **D2**, **D3**, **D5** and **D6** in dichloromethane. The potentials are referenced against the ferrocene/ferrocenium couple.

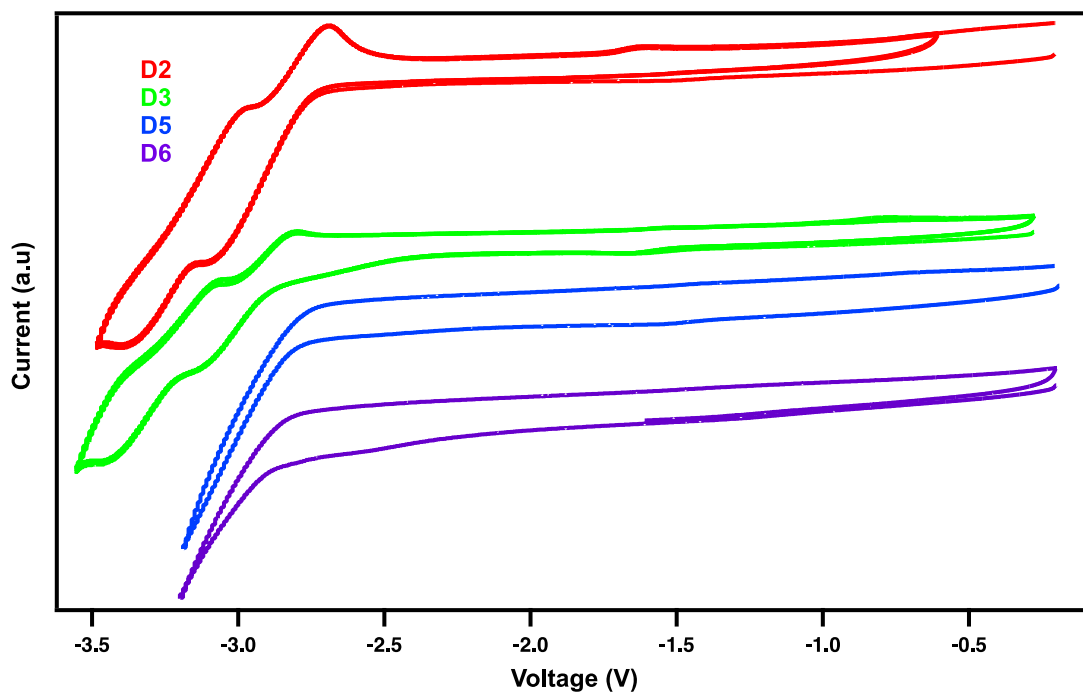


Fig. S4. Reduction cyclic voltammograms of the dendrimers **D2**, **D3**, **D5** and **D6** in tetrahydrofuran in the presence of 0.1 M tetra-*n*-butylammonium perchlorate at room temperature. The potentials are referenced against the ferrocene/ferrocenium couple.

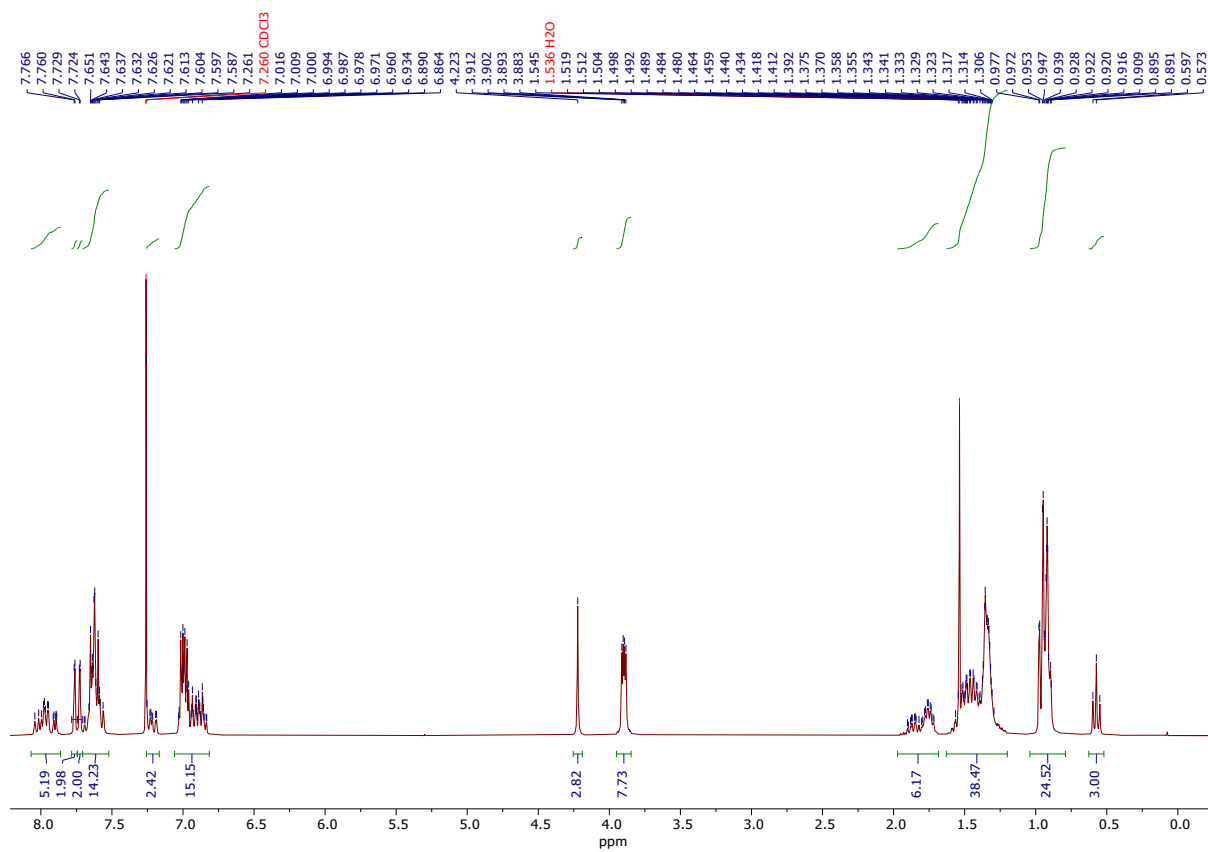


Fig. S5. ¹H NMR of dendrimer **D2** in CDCl₃.

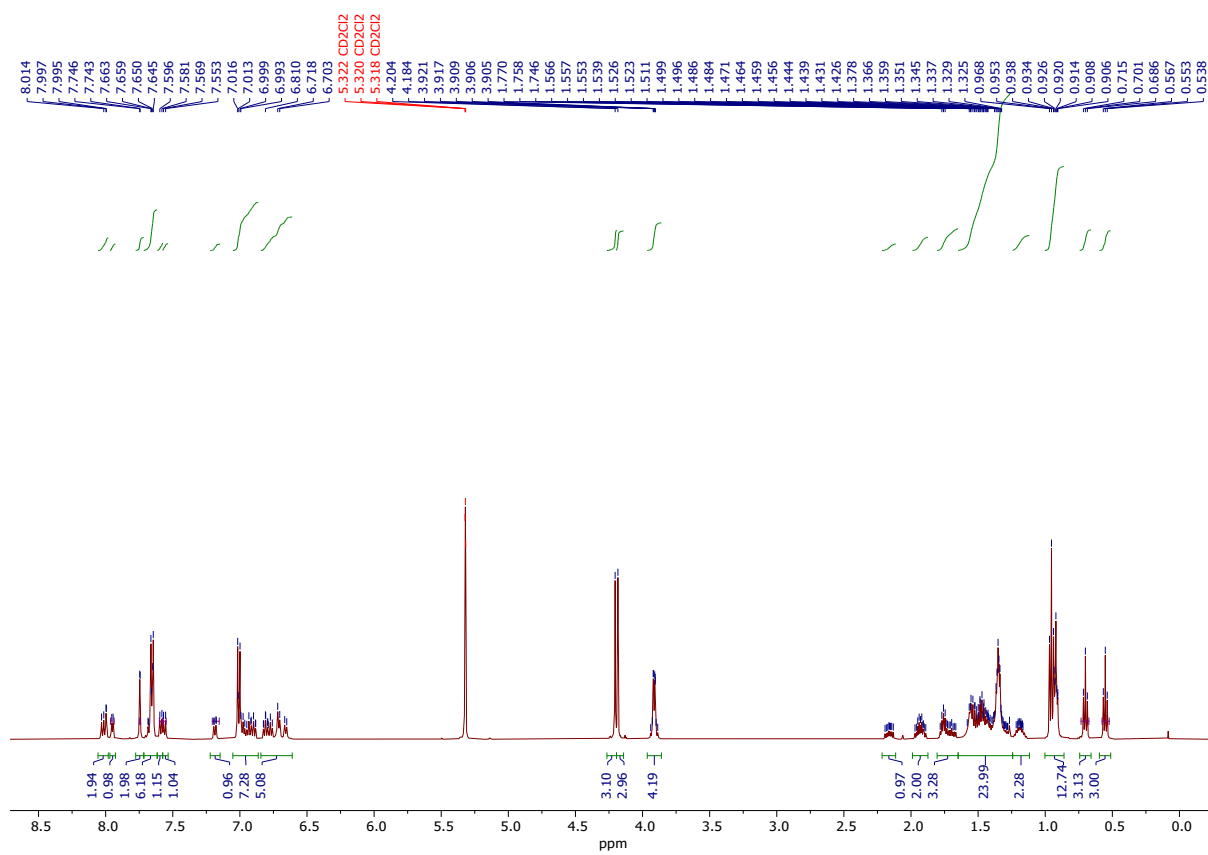


Fig. S6. ¹H NMR of dendrimer **D3** in CD₂Cl₂.

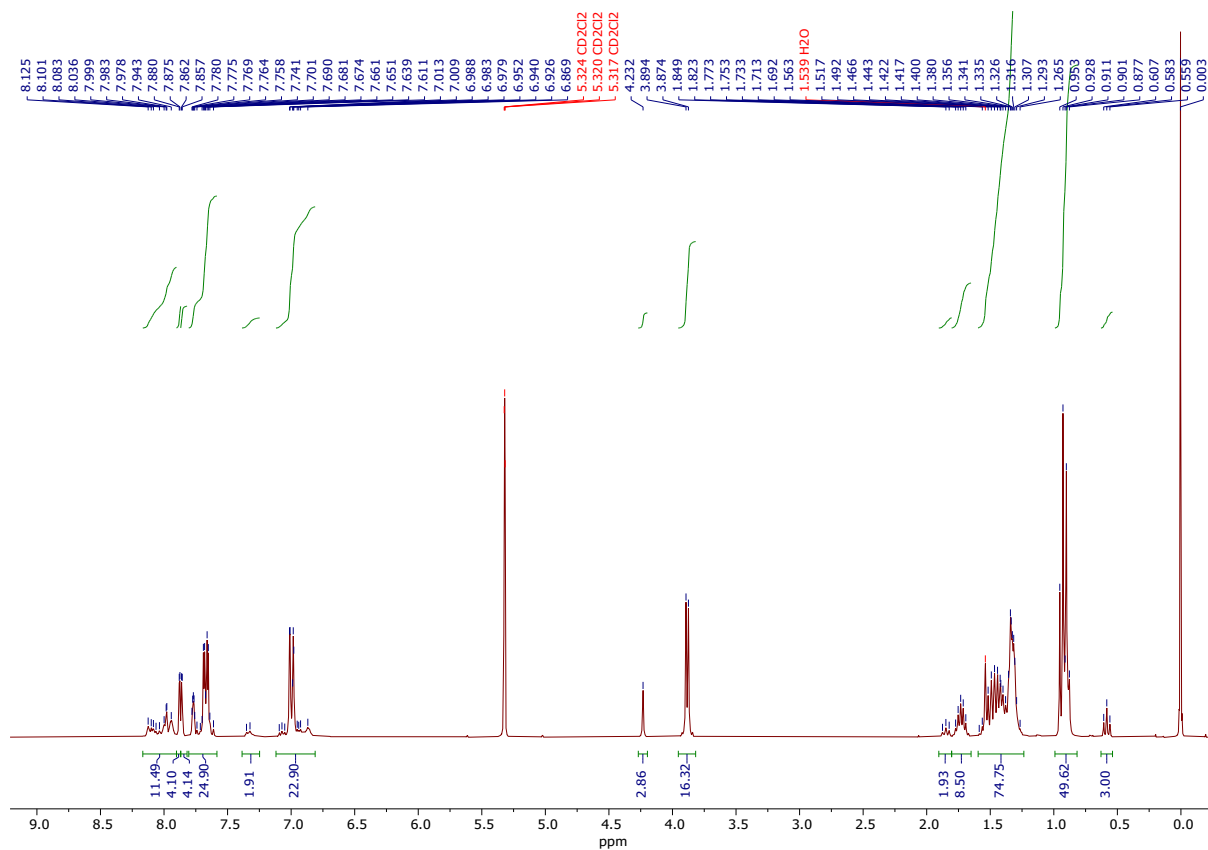


Fig. S7. ¹H NMR of dendrimer **D5** in CD₂Cl₂.

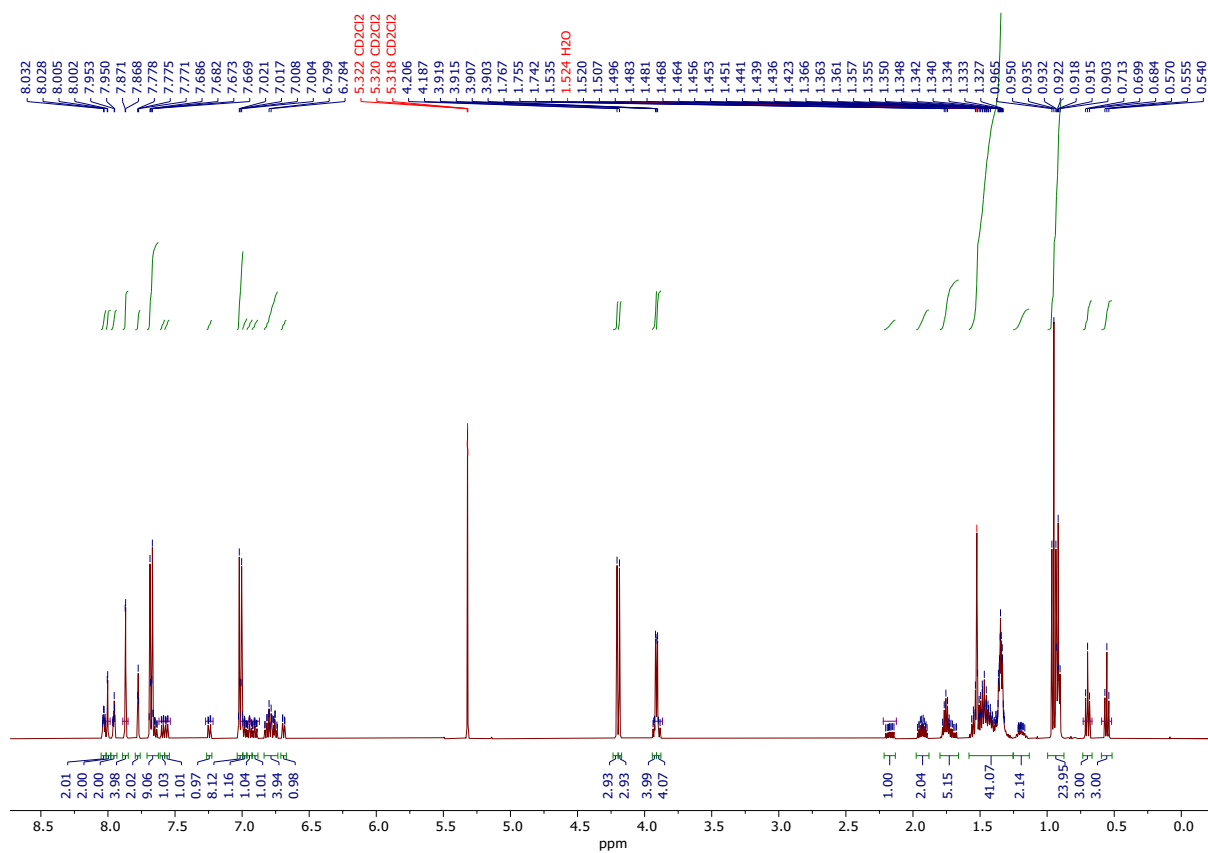


Fig. S8. ¹H NMR of dendrimer **D6** in CD₂Cl₂.

Table S1 EQE summary of green emissive phosphorescent dendrimer-based OLEDs.

Device structure	EQE [%]	Reference
ITO/PEDOT:PSS/ (15 wt%) green emitter:TCTA:TPBi/TmPyPB/LiF/Al	19.6	A. Maheswaran, R. Kumaresan, H-Y. Park, J. Kim, H. Kim, S.-Ho Jin, <i>Org. Electron.</i> , 2022, 106 , 106517
ITO/PEDOT:PSS/ (5 mol%) green emitter:TCTA/TmPyPB/LiF/Al	17.1	D. M. Stoltzfus, W. Jiang, A. M. Brewer, P. L. Burn, <i>J. Mater. Chem. C</i> , 2018, 6 , 10315-10326
ITO/PEDOT:PSS/(50 wt%) green emitter:TCCz/TPBi/LiF/Al	16.6	J. Ding, J. Gao, Y. Cheng, Z. Xie, L. Wang, D. Ma, X. Jing, F. Wang, <i>Adv. Funct. Mater.</i> 2006, 16 , 575–581.
ITO/(50 wt%) green emitter:CBP/TBPI/ LiF/Al	14.7	J. W. Levell, W.-Y. Lai, R. J. Borthwick, P. L. Burn, S.-C. Lo, I. D. W. Samuel, <i>New J. Chem.</i> , 2012, 36 , 407-413.
ITO/PEDOT:PSS/(10 wt)% green emitter:TCCz/TPBi/LiF/Al	≈10%	L. Chen, Z. Ma, J. Ding, L. Wang, X. Jing, F. Wang, <i>Org. Electron.</i> , 2012, 13 , 2160-2166.
ITO/PEDOT:PSS/PVK/green emitter/CsF/Al	≈0.08	A. Liang, Z. Liu, Z. Wang, W. Zhou, Y. Zhang, S. Hu, J. Xu, W. Zhu, M. Cai, <i>Opt. Materials</i> , 2020, 106 , 109976.