# Reply

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Recently, we reported a new luminescent complex, boron 1,6-bis(2-hydroxy-5-methylphenyl)pyridine fluoride ((mdppy)BF, and a white electroluminescent (EL) device based on (mdppy)BF.[1] Figure 4 in ref. [1] needs a more careful examination. In fact, we are also trying to explain the EL spectrum feature. Figure 4 was recorded at lower luminance ($10\,cd\,m^{-2}$). The comment of Chou et al. made us realize that stray light could disturb the EL spectrum feature. In ref. [1] we only presented an EL spectrum at low luminance. We also recorded the EL spectra at higher luminance. Figure 1 shows the EL spectra of the ITO/NPB/(mdppy)BF/LiF/Al device recorded at 30 and $120\,cd\,m^{-2}$, respectively. The EL spectrum at the higher luminance level showed a different line shape than that at low luminance because stray light interference is negligible at higher luminance. Before reading the comment of Chou et al., we believed that the EL spectra at low luminance were different to those at higher luminance because exciplex emissions exhibit different characteristics at different luminance levels. Exciplex emission often contains quite complex mechanisms and thus the EL devices that have exciplex emission often show different EL spectra with varying luminance.

The minimum luminance that our PR 650 spectrometer can detect is $1\,cd\,m^{-2}$ and its measurement error is 2%. The PR 650 spectrometer could not detect the luminance of stray light, so the luminance of the stray light was lower than $1\,cd\,m^{-2}$. The EL efficiency and Commission Internationale de l'Eclairage (CIE) coordinates, which were described in ref. [1], were obtained at higher luminance ($>100\,cd\,m^{-2}$). The performance data of the white EL device was precise. Recently, we developed five other boron hydroxyphenyl–pyridine complexes and investigated their EL properties. The five complexes showed similar EL performance to (mdppy)BF. Boron hydroxyphenyl–pyridine complexes could be used to develop highly efficient white EL devices with simple device structure and material system. We will report our new results in the near future. Finally, we thank Chou et al. for their comment, which helped considerably to clarify the EL spectra that we obtained.

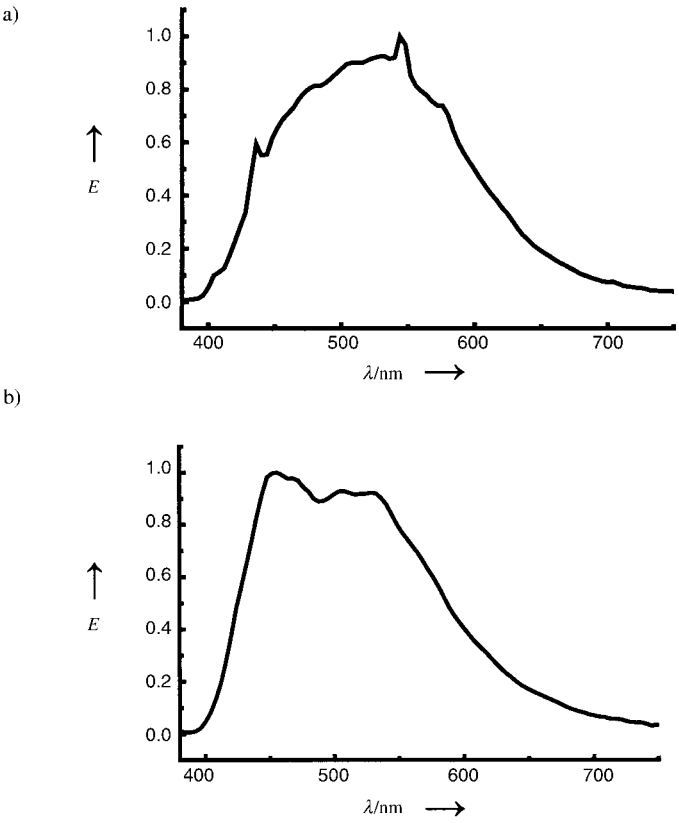


Figure 1. The EL spectra of the ITO/NPB/(mdppy)BF/LiF/Al device at a luminance of a) $30\,cd\,m^{-2}$ and b) $120\,cd\,m^{2-}$.

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[1] Y. Liu, J. Guo, H. Zhang, Y. Wang, *Angew. Chem.* **2002**, *114*, 190; *Angew. Chem. Int. Ed.* **2002**, *41*, 182.

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