

Impact of Site-Directed Mutant Luciferase on Quantitative Green and Orange/Red Emission Intensities in Firefly Bioluminescence

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References

- [1] Ando, Y., et al. Firefly bioluminescence quantum yield and colour change by pH-sensitive green emission. *Nat. Photonics* **2** 44–47, 2007

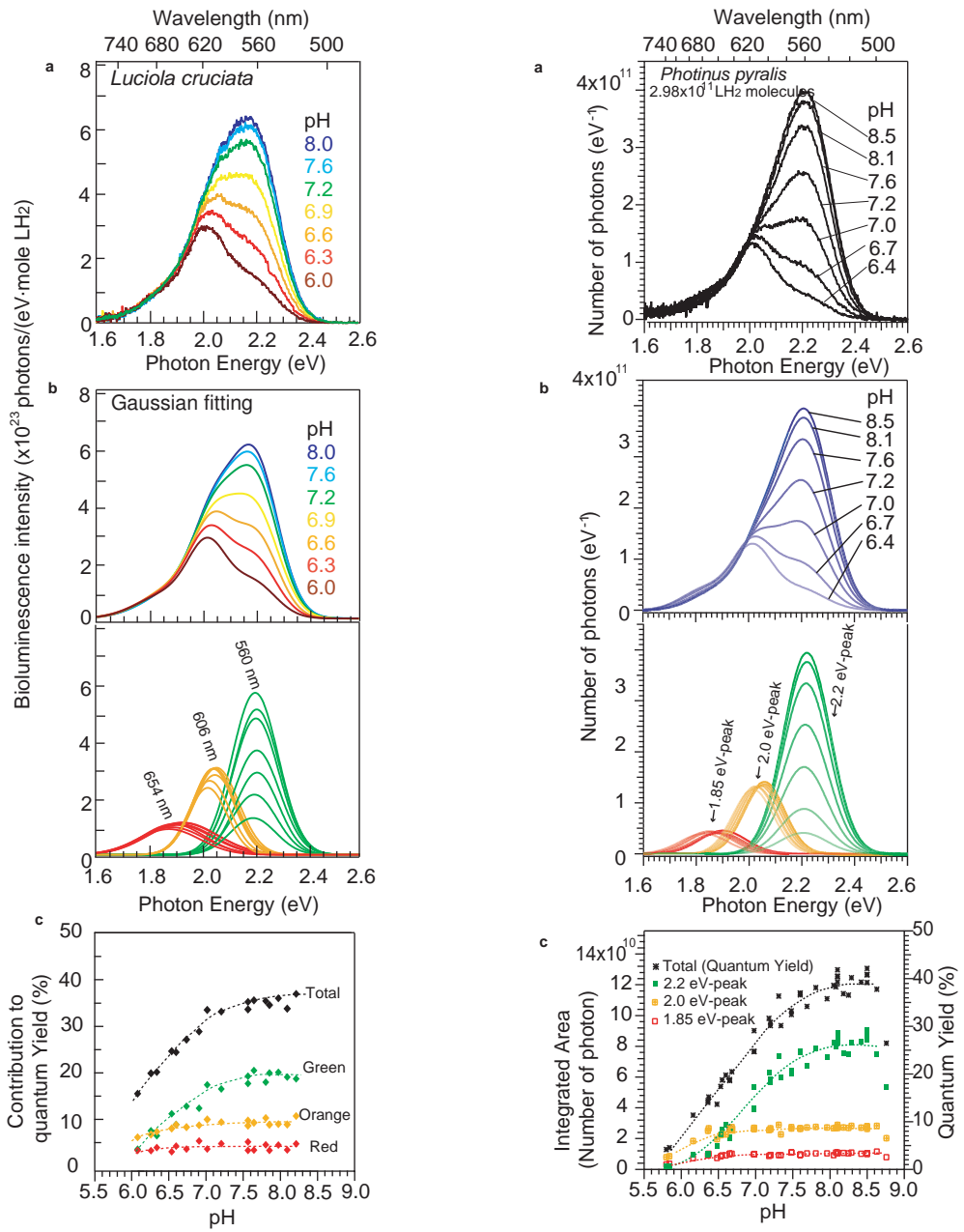


Figure 1: Comparison of wild type *Lcr* (left-side panel) and *Ppy* (right-side panel [1]) luciferase at various pH values: (a) Quantitative spectra; (b) The results of Gaussian curve fitting to the spectra in (a), and each Gaussian components; (c) the contributions of the integral area of each Gaussian component in (b) to quantum yield, shown with corresponding colour. The summations are shown with black colour. The scales of the vertical axes of the corresponding group are set to be equivalent.

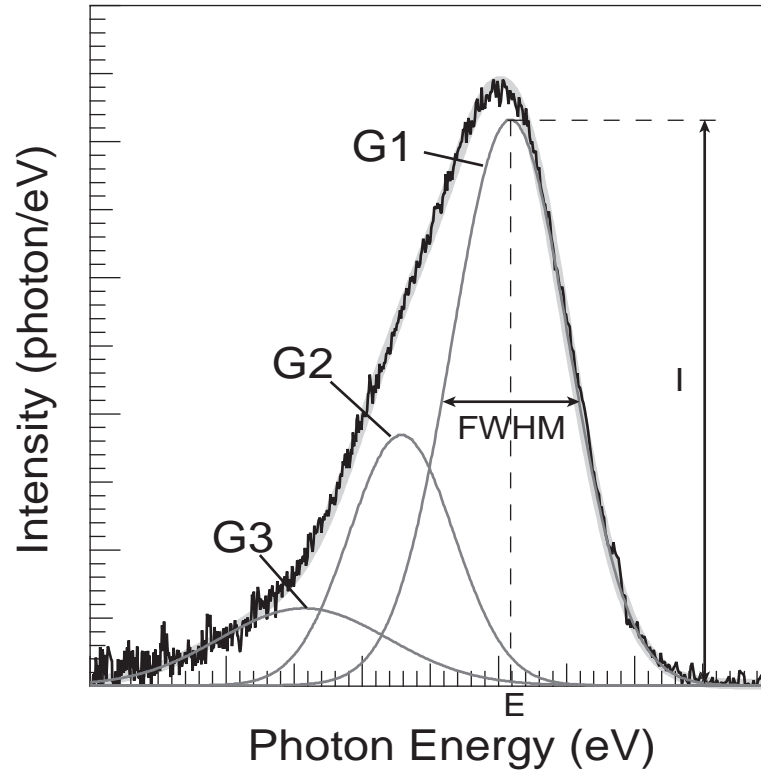


Figure 2: The experimental spectrum (black line) was reproduced with three Gaussian functions G1, G2, and G3 (dark gray lines). The peak intensity (I), peak energy (E), and full width at half maximum of the peak (FWHM) of the three Gaussian functions were adjusted to make their summation curve (light gray line) mimic the experimental spectrum.