This ESI replaces the previous version published on 08.11.2023 to include Figure S7

Supporting Information

Fluorescent Carbon Dots from Birch Leaves for Sustainable Electroluminescent Devices

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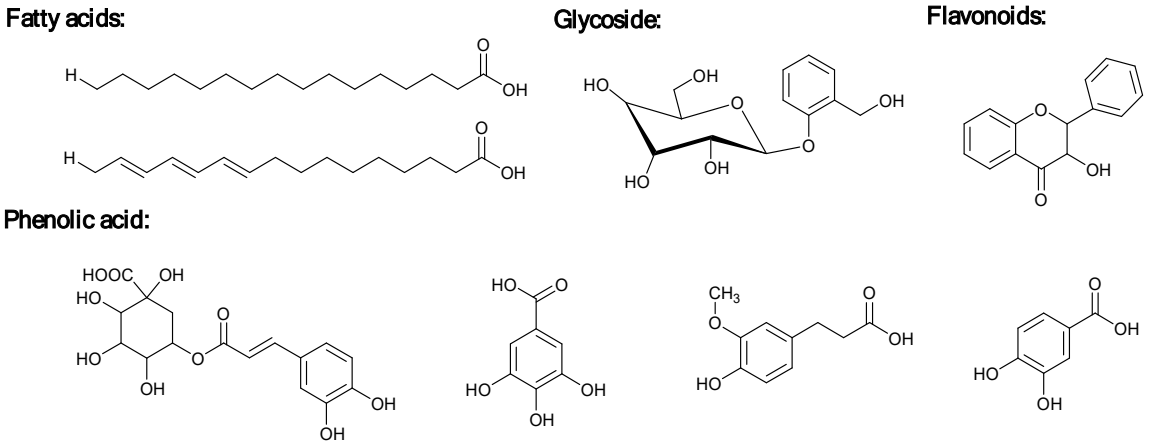

Figure S1. *A selection of the biomolecular species commonly present in birch leaves and their chemical structures. The chemical structures of pheophytin a and chlorophyll a are depicted in the lower right-hand part of Figures 1(e) and 1(f), respectively.*

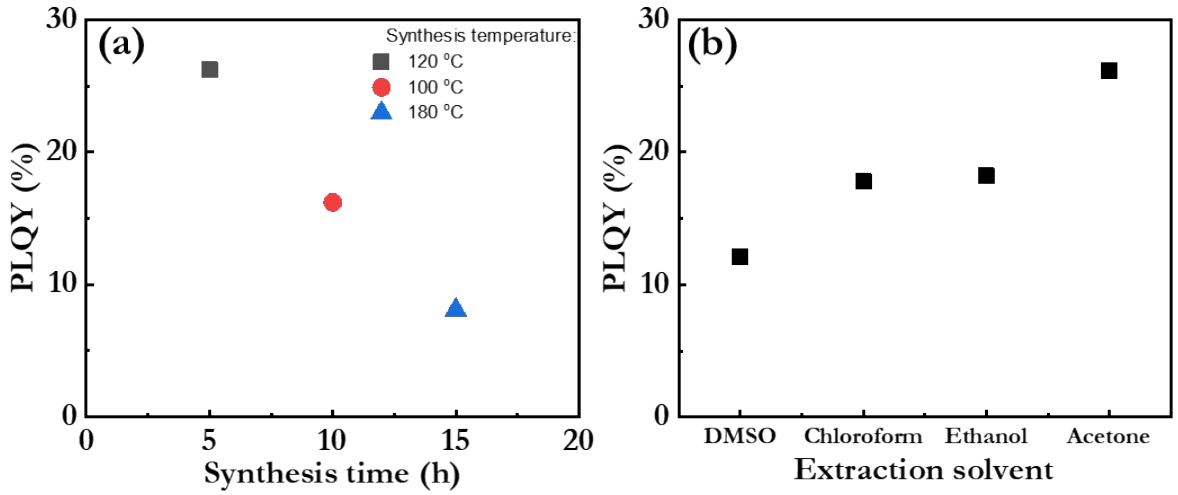

Figure S2. *The photoluminescence quantum yield (PLQY) of the synthesized bio-CDs: (a) as a function of the reaction time (see x-axis) and the reaction temperature (see inset) in acetone; (b) as a function of extraction solvents when other reaction parameters remain unchanged (i.e., 120 °C for 5h).*

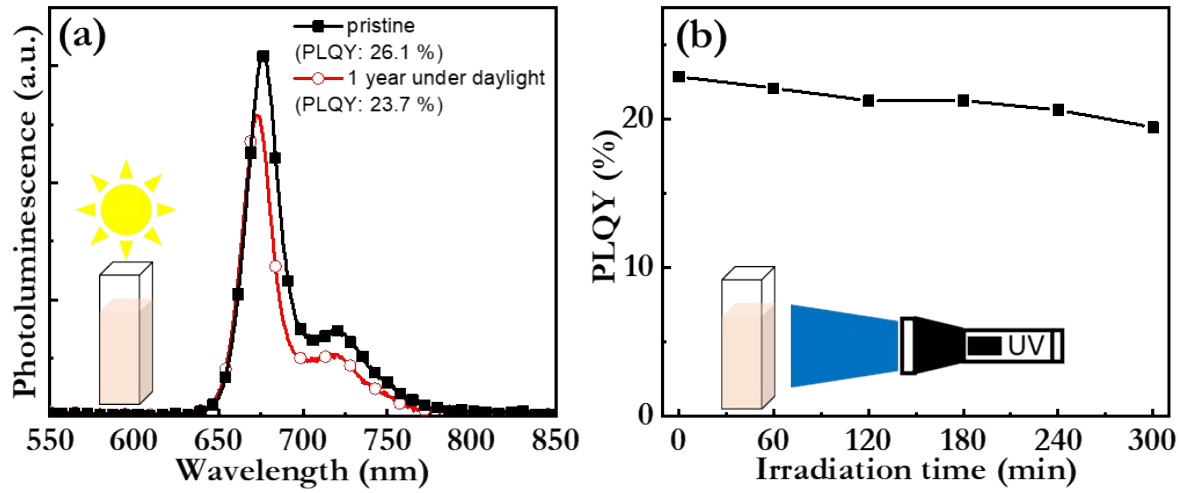

Figure S3. *The photostability of the bio-CD-in-ethanol solution (solute concentration = 1.6 mg/L) under ambient air, during exposure to (a) daylight and (b) UV irradiation with a power density of 230 W/m^2 and a peak wavelength of 365 nm.*

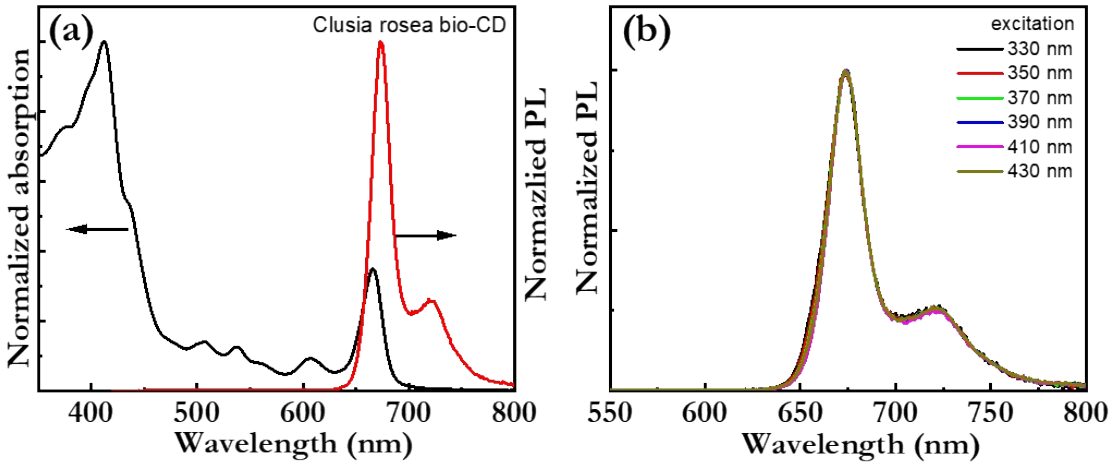

Figure S4. *(a) The absorption and PL spectra, and (b) the PL spectrum as a function of excitation wavelength, for bio-CDs synthesized from leaves from the plant "Clusia rosea".*

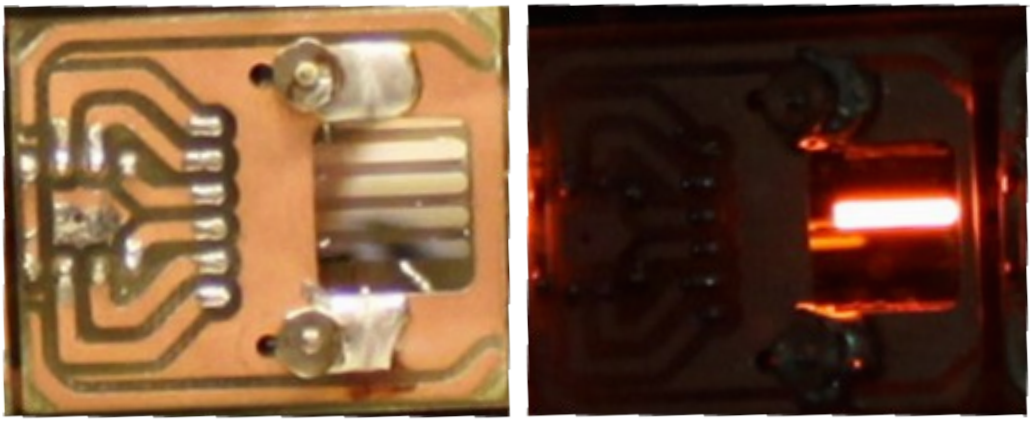

Figure S5. *Photographs of an LEC device in the idle off state (left) and during deep-red and narrow-band light emission (right).*

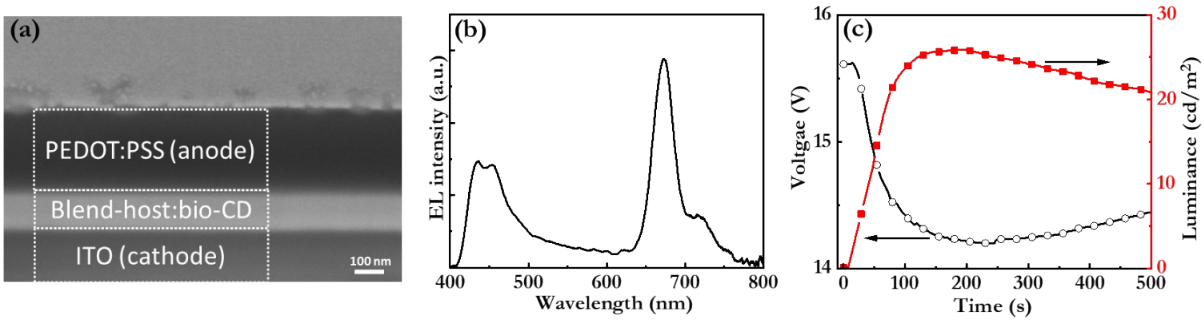

Figure S6. *(a) A cross-sectional SEM image of the ITO/blend-host:bio-CD/PEDOT:PSS LEC device structure. (b) The steady-state EL spectrum and (c) the temporal evolution of the*

luminance and the voltage for the LEC with a spray-coated PEDOT:PSS top electrode. The device was driven by a constant current density of 154 mA/cm^2.

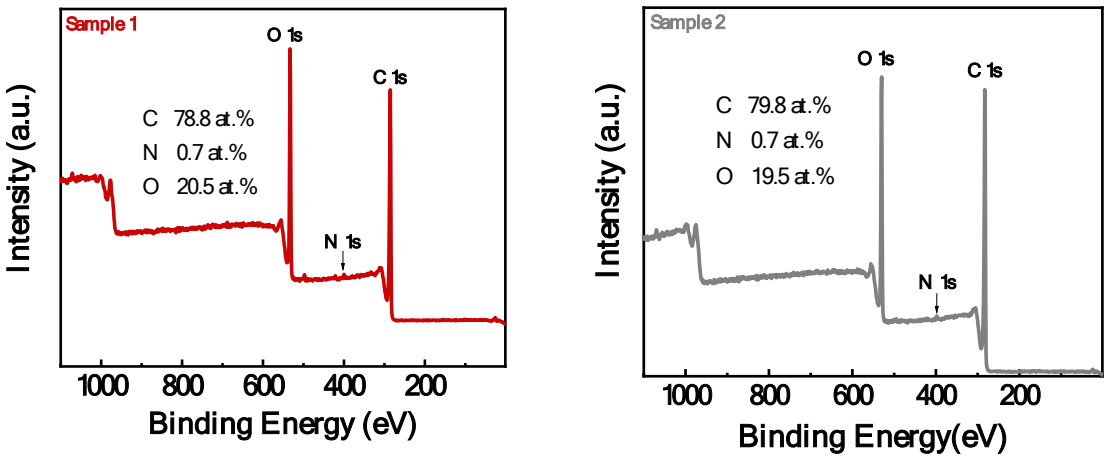

Figure S7*. The XPS survey spectra of two individual measurements on bio-CD films.*