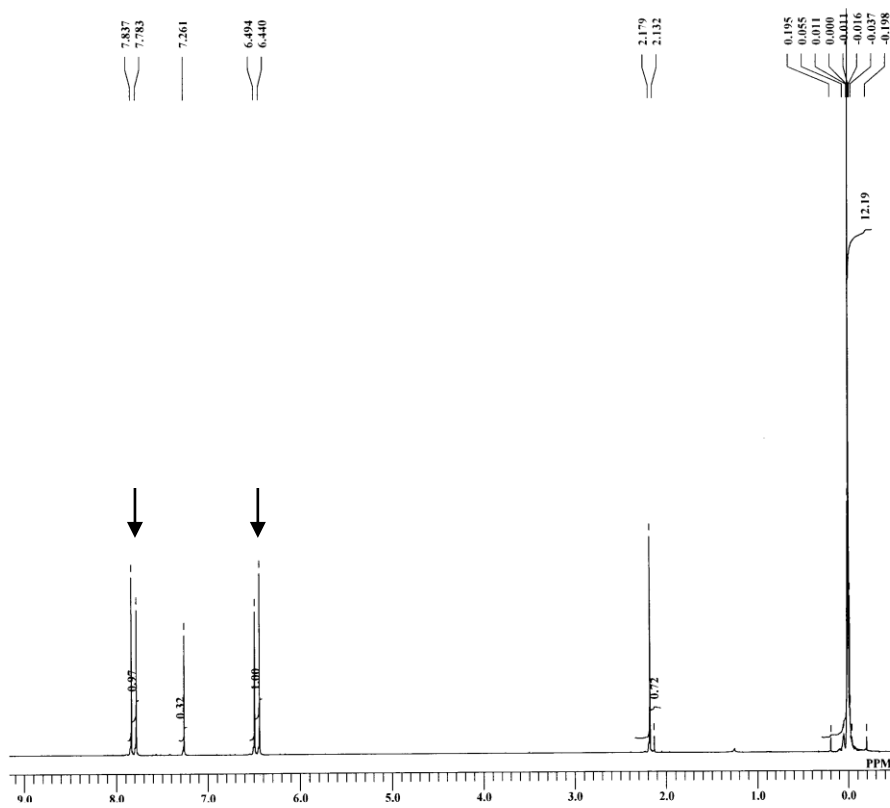


*d*<sub>5</sub>-*trans*-CA



*d*<sub>5</sub>-*cis*-CA

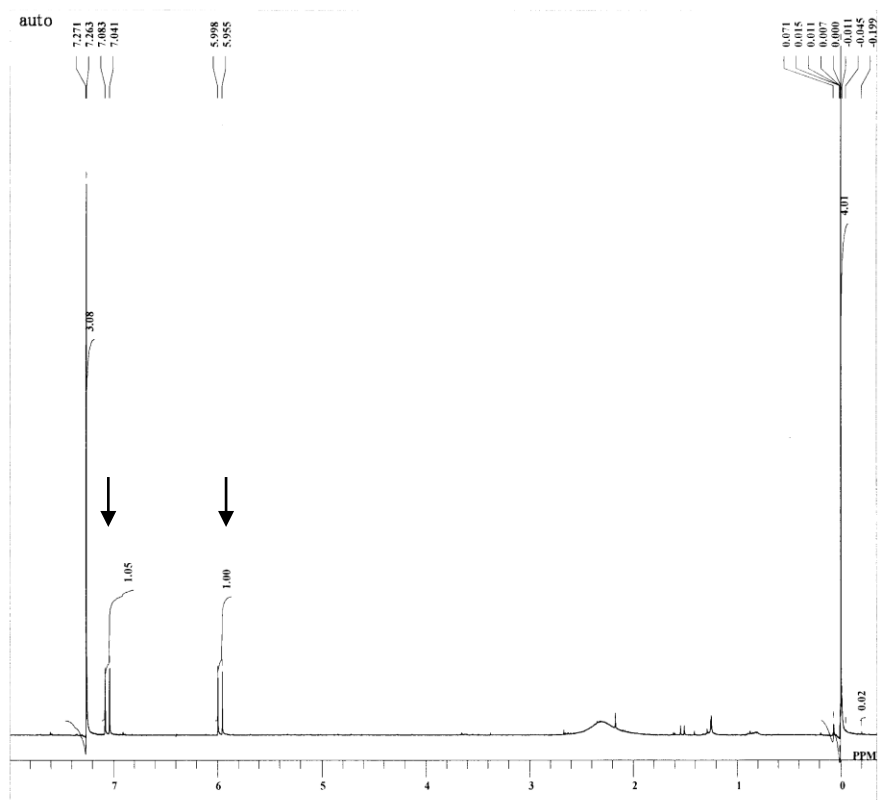
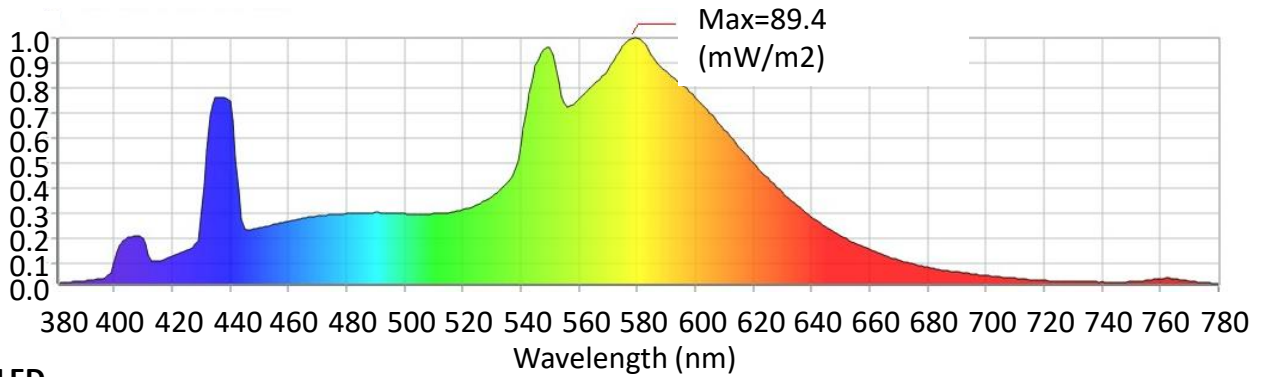


Fig.S1. <sup>1</sup>H-NMR analysis of deuterium-labeled *trans*-/*cis*-CA. The arrows indicate the signals derived from the protons attached on the carbon double bond in the CA side chain.

**FL**



**LED**

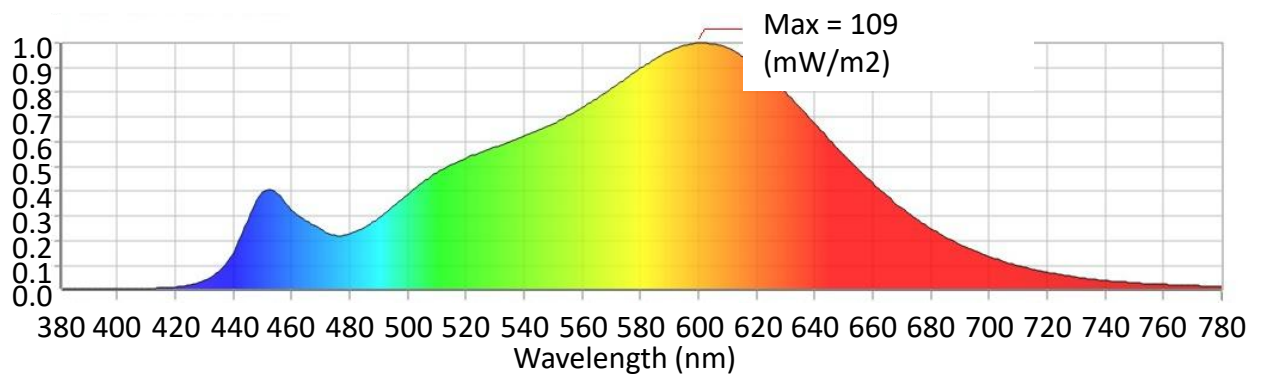


Fig. S2. The spectral photon flux density distribution of fluorescent light (FL) or LED as measured by LA-105 (Nippon Medical & Chemical Instruments Co., Ltd., Osaka, Japan).