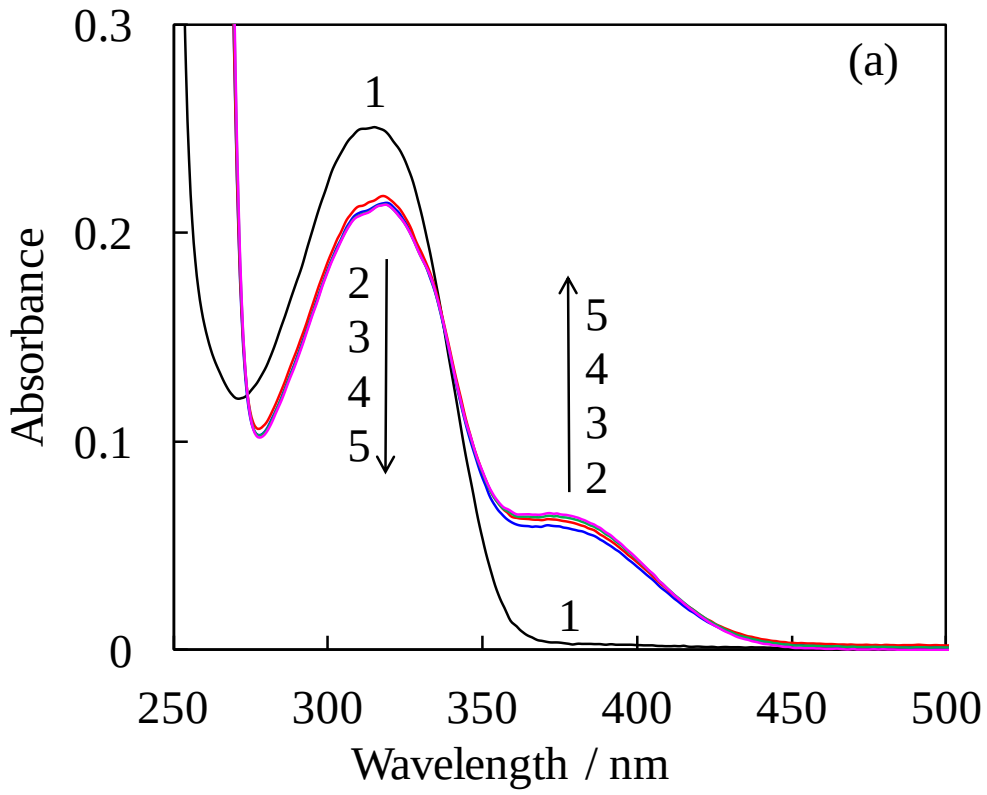
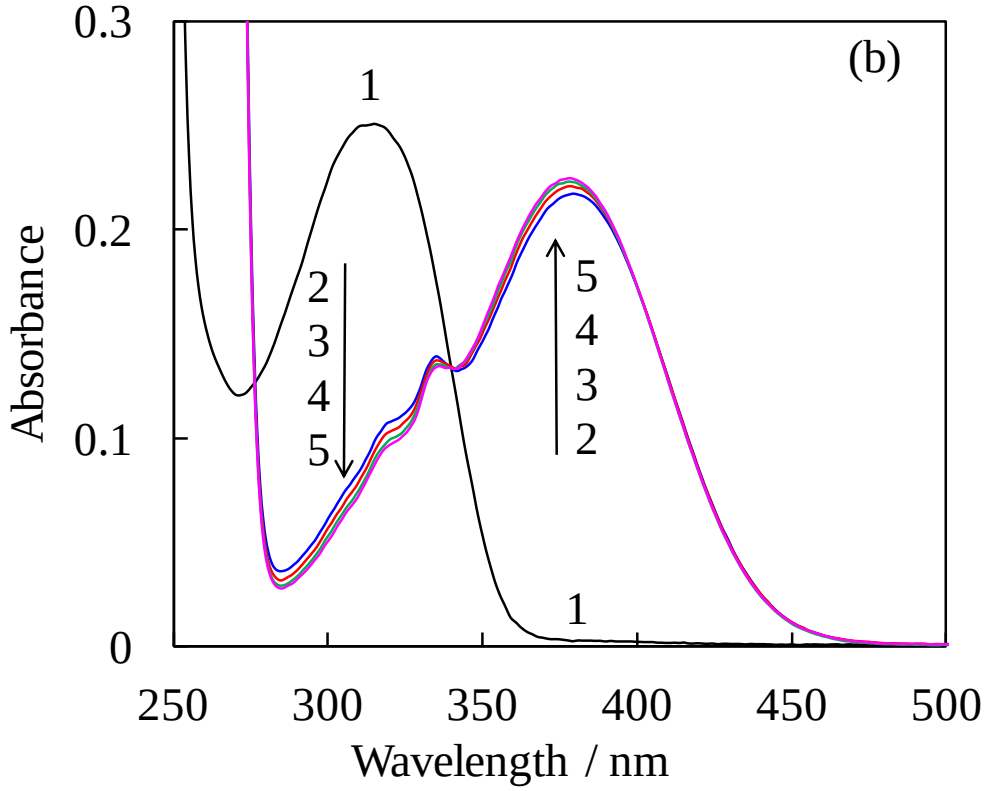
Electronic Supplementary Material (ESI) for Photochemical & Photobiological Science

Fig. S1

UV-vis absorption spectra of 8-HQ ethanol solutions with (a) Mg^{2+}, (b) Zn^{2+}, and (c) Al^{3+} in which the concentration of 8-HQ was 1.0×10^{-4} mol $dm^{-3}$and those of metal ions were (1) 0, (2) 4.0×10^{-3}, (3) 6.0×10^{-3}, (4) 8.0×10^{-3}, and (5) 9.0×10^{-3} mol dm^{-3}. The ratio of Q^- to the metal ion should be 1/1 under these conditions because the metal concentrations were much higher than that of 8-HQ.





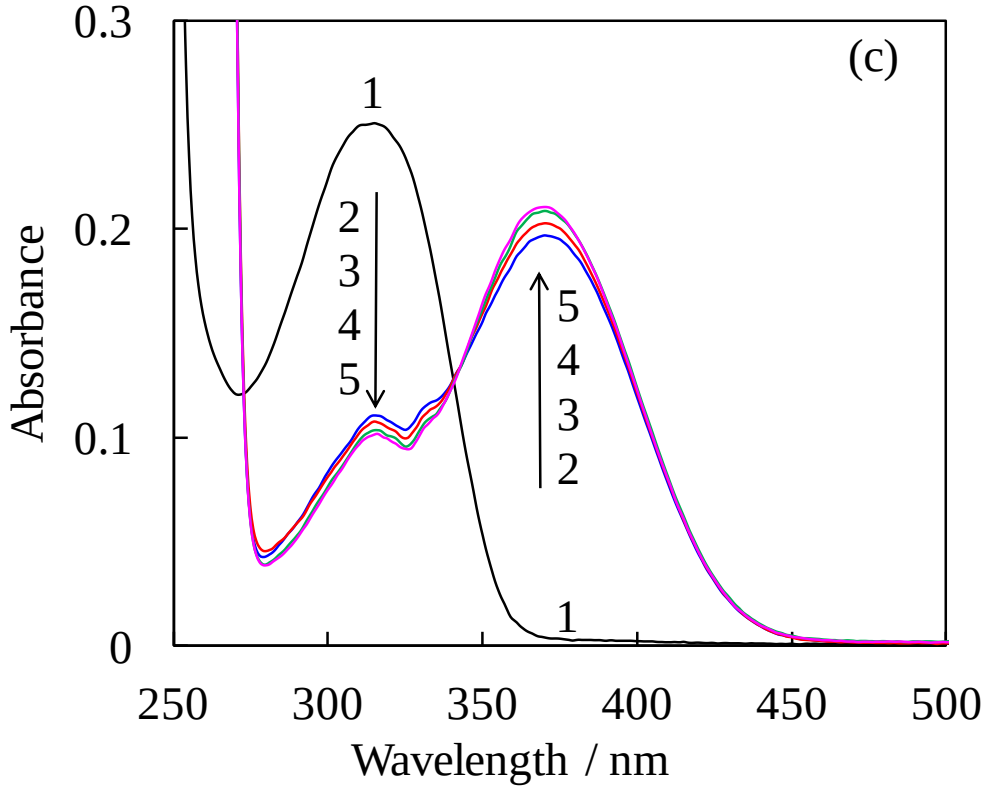
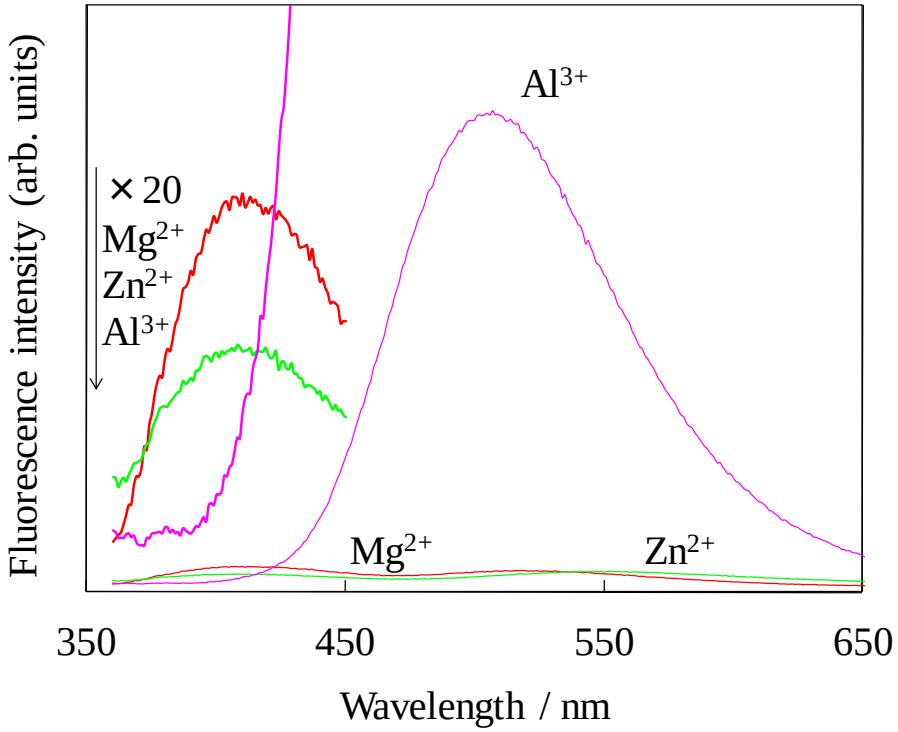


Fig. S2

Fluorescence spectra of the silica xerogels containing 8-HQ with Mg^{2+}, Zn^{2+}, and Al^{3+}. The excitation wavelengths were (a) 320 and (b) 370 nm. Upon 320 nm excitation, the fluorescence intensity of Q^{-}-Al^{3+} was higher than those of Q^{-}-Zn^{2+} and Q^{-}-Mg^{2+}. The relative intensities of 8-HQ observed upon 320 nm excitation were higher than those observed upon 342 nm excitation, which was the isosbestic point. The fluorescence intensity of the complex was higher in order of Al^{3+}, Zn^{2+}, and Mg^{2+} upon 370 nm excitation. No fluorescence of 8-HQ was observed.

(a)



(b)