Supporting Information

High sensitive sensor with HEPES-enhanced electrochemiluminescence of benzo[3]uril for Fe^{3+} and its application in human serum

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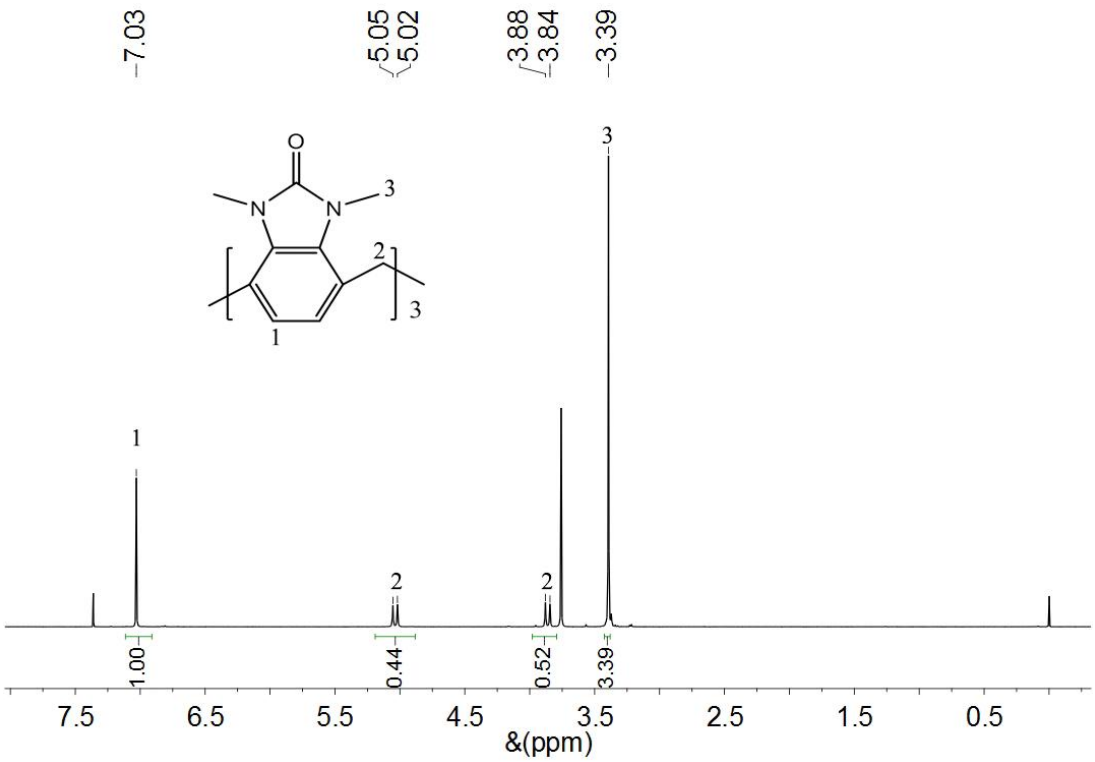

Figure S1. ^{1}H NMR spectra (400 MHz, $CDCl_3$: CD_3OD = 6:1) of benzo[3]uril.

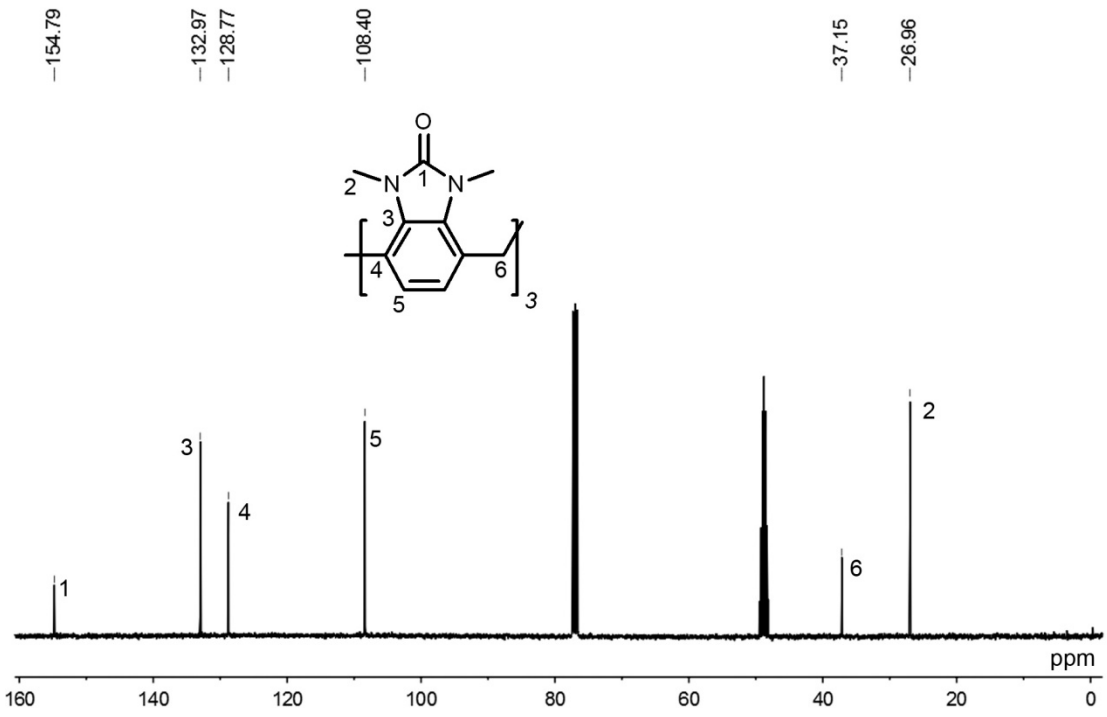

Figure S2. ^{13}C NMR spectra (100 MHz, $CDCl_3$: CD_3OD = 6:1) of benzo[3]uril.

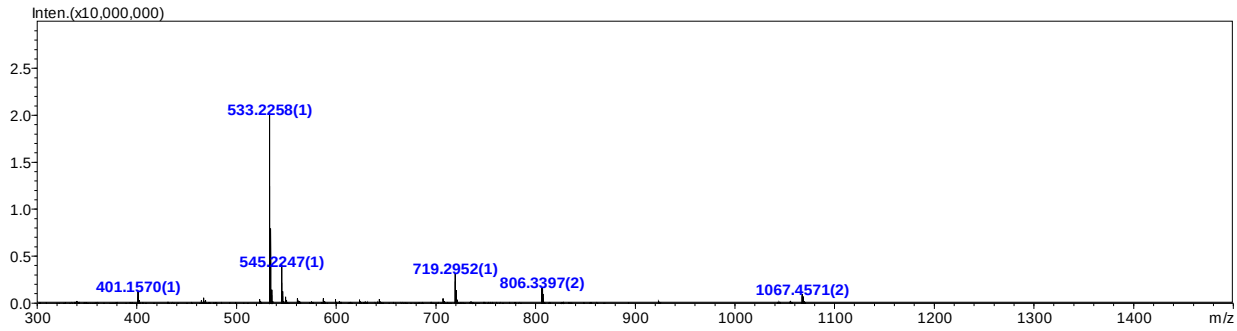

Figure S3. HRMS spectra of benzo[3]uril.

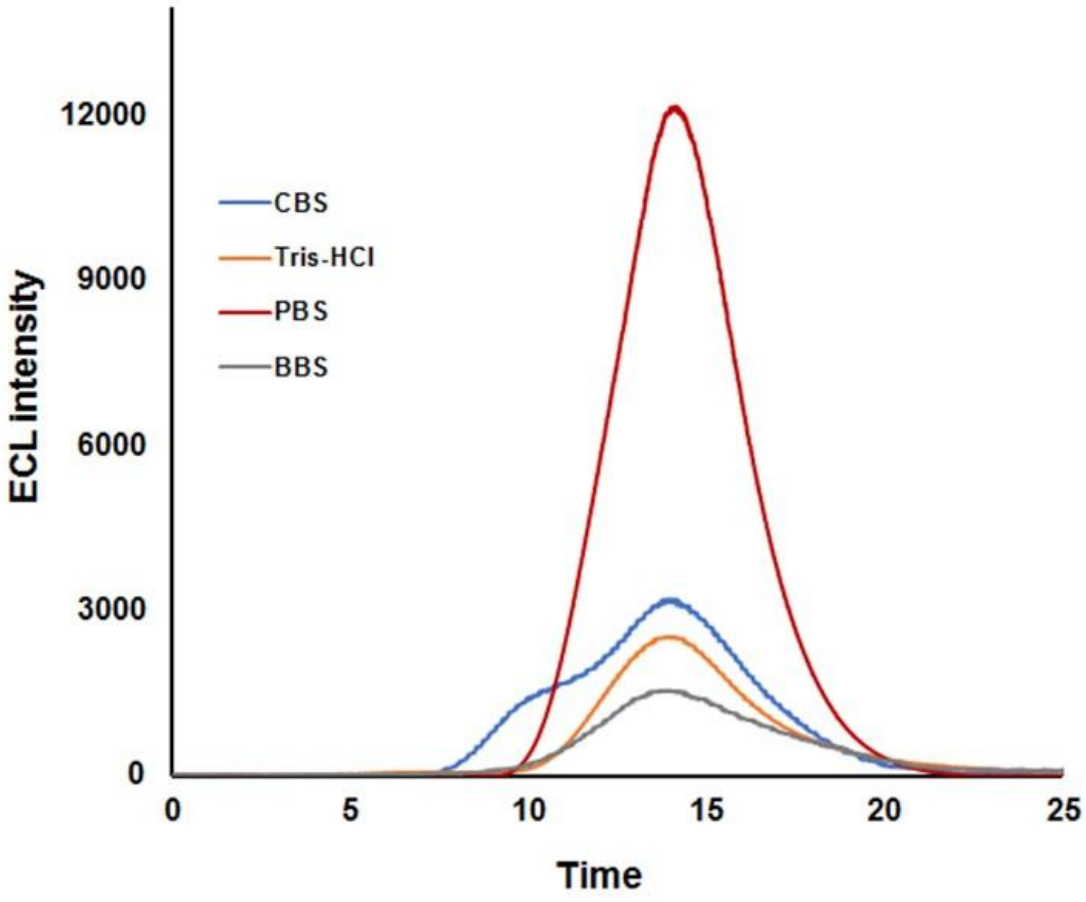

Figure S4. Effects of different electrolytes (0.1 M CBS, Tris-HCl, PBS, BBS, pH = 7.4), containing 0.050 M HEPES on the ECL intensity with the decorated electrode.

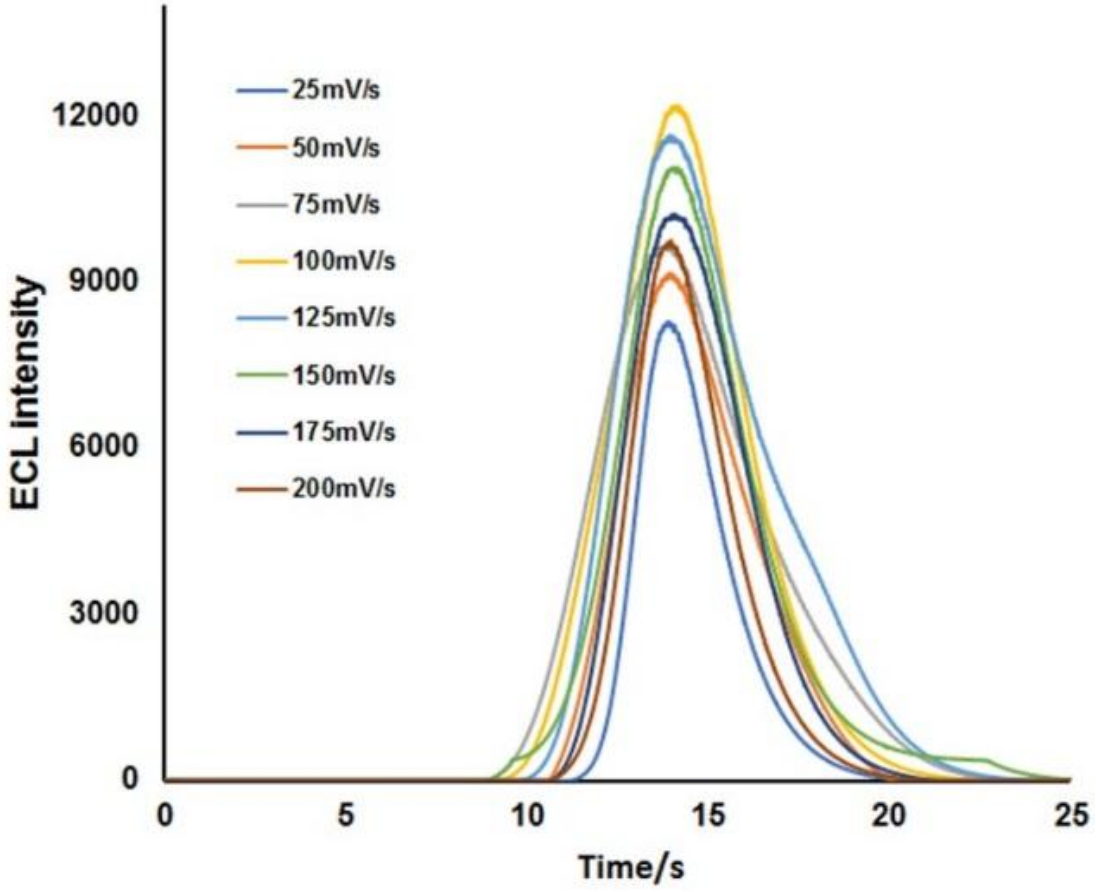

Figure S5. The ECL intensity of decorated electrode in the 0.1M PBS buffer (pH = 7.4) containing 0.050 M HEPES with different scan rates.

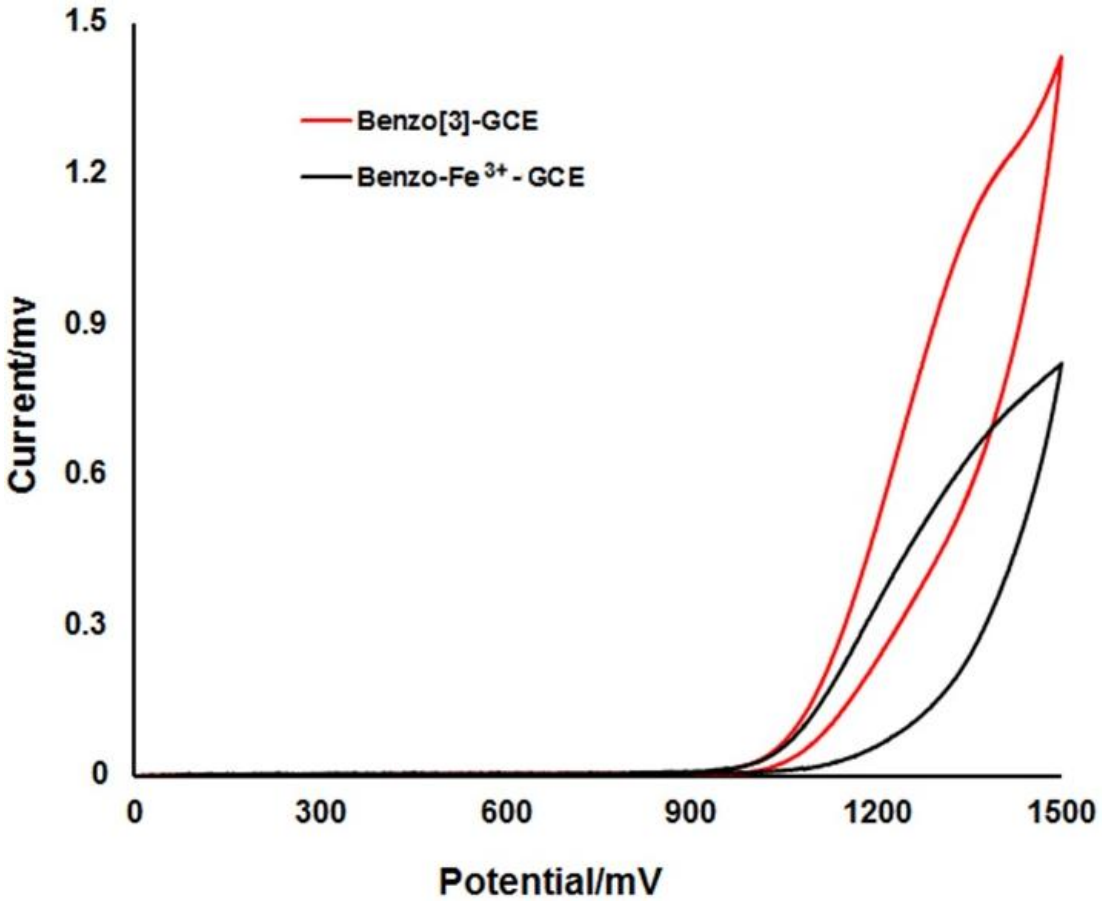

Figure S6. Cyclic voltammograms of benzo[3]uril and with the incubation of Fe^{3+} in the 0.05M HEPES in the PBS solution at pH=7.4.

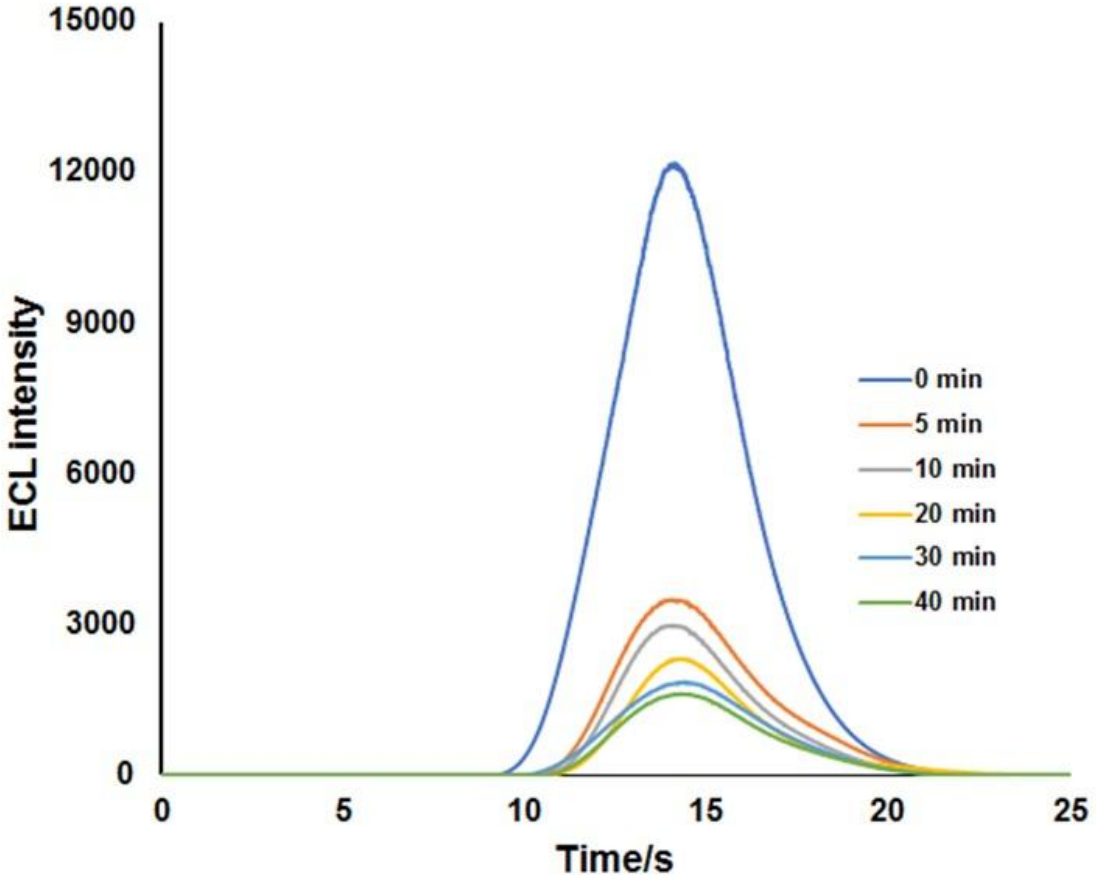

Figure S7. Effects of the incubation time of the decorated electrode into Fe^{3+} aqueous solution (5min, 10min, 20min, 30min, 40min) to the ECL intensity of the sensor in 0.10 M PBS (pH = 7.4) containing 0.050 M HEPES, and scan rate 100 mV/s^{-1}.

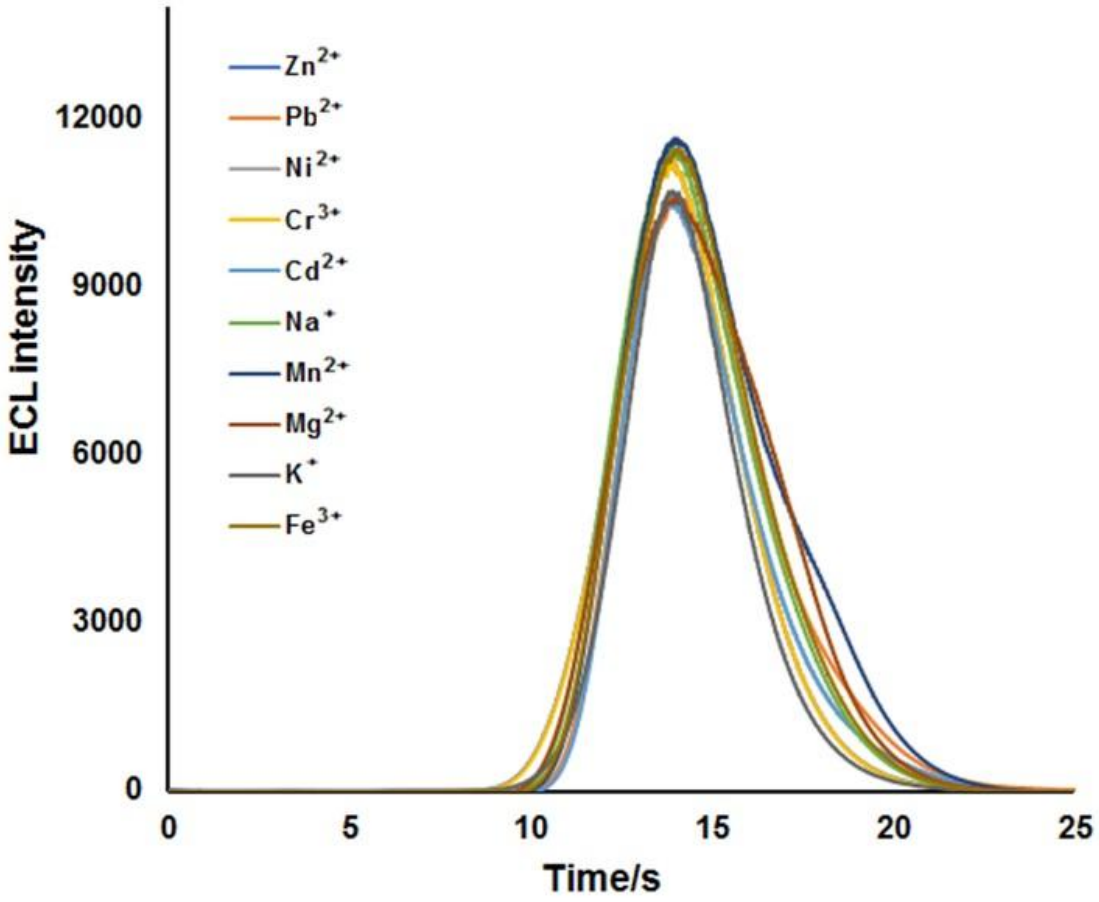

Figure S8. Competitive selectivity of the ECL sensor toward metal cations.

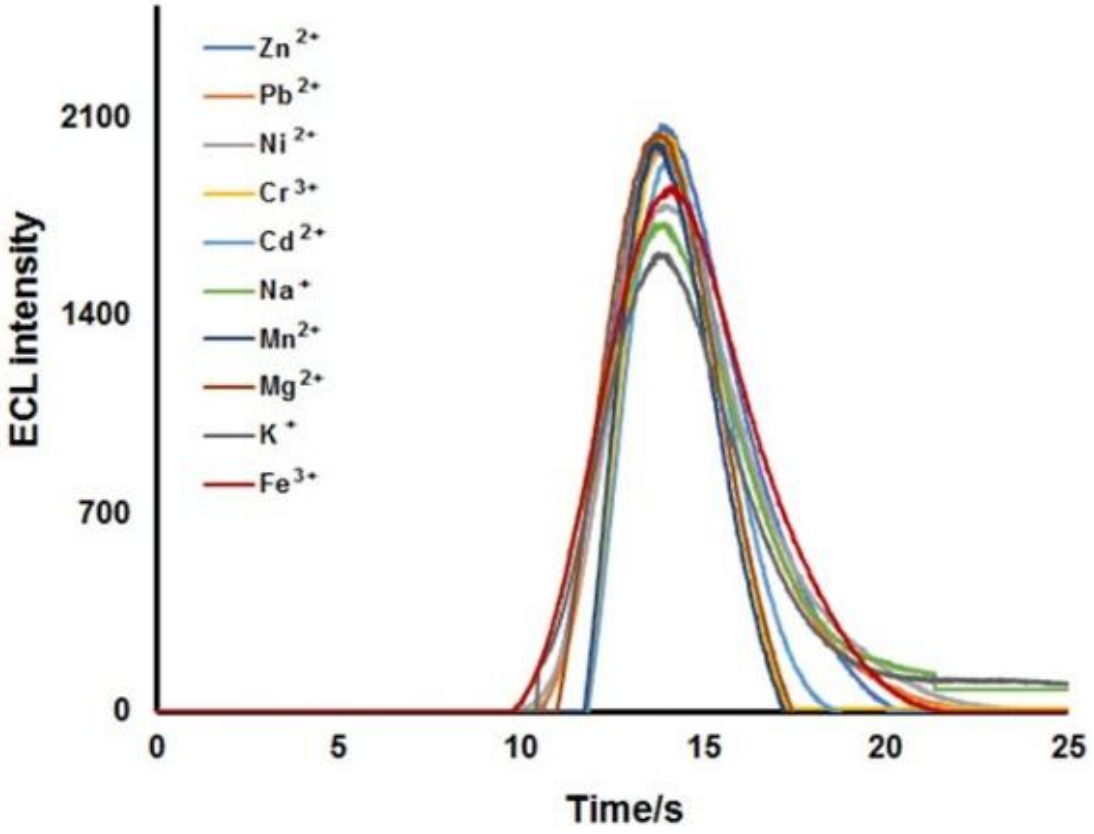

Figure S9. Competitive interferences of the ECL sensor toward Fe^{3+} in the presence of other metal cations

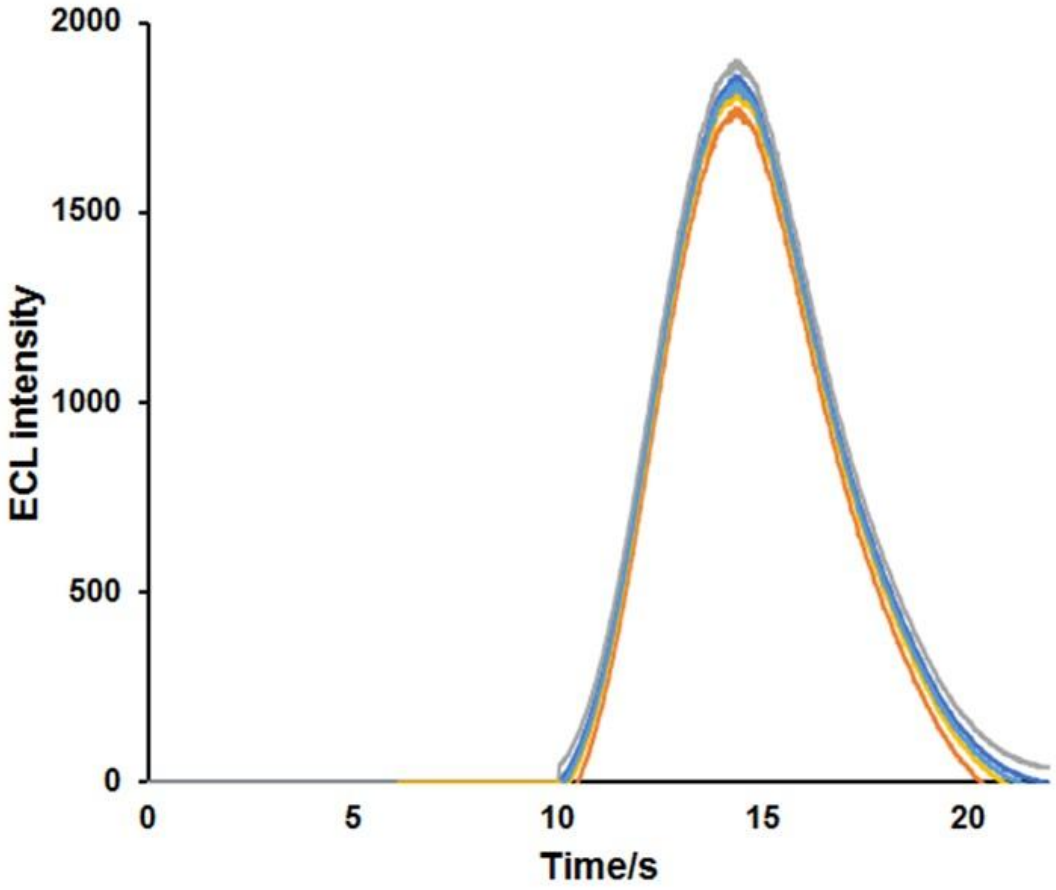

Figure S10. The reproducibility of the proposed ECL modified electrodes.

Description of the source of human serum and preparation for the Fe^{3+} solution

Samples of deproteinized human serum were obtained from the Hospital of Guizhou University, which was applied for analysis without any further process.

The solution of Fe^{3+} was prepared by deionized water without acidification, and we did not observe the formation of any deposits by hydrolysis of the metal cations.