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ABSTRACT:

A simple and effective method was proposed to prepare an imprinted polymer layer at the surface of magnetic carbon dots with dopamine as the functional monomer for selectively and sensitively fluorescent recognizing bovine hemoglobin. The magnetic fluorescence imprinted polymers were investigated by Fourier-transform infrared spectra, scanning electron microscopy, transmission electron microscopy, energy dispersive X-ray spectroscopy, and vibrating sample magnetometer. Under optimum conditions, the fluorescent intensity decreased linearly coincided with the concentration of bovine hemoglobin in the range of 0.05 μM ~ 16.0 μM with a detection limit of 17.3 nM. The magnetic fluorescence imprinted polymers were