Supporting Information

Fluorescent and Superparamagnetic Hybrid Quantum Clusters for Magnetic Separation and Imaging of Cancer cells from Blood.

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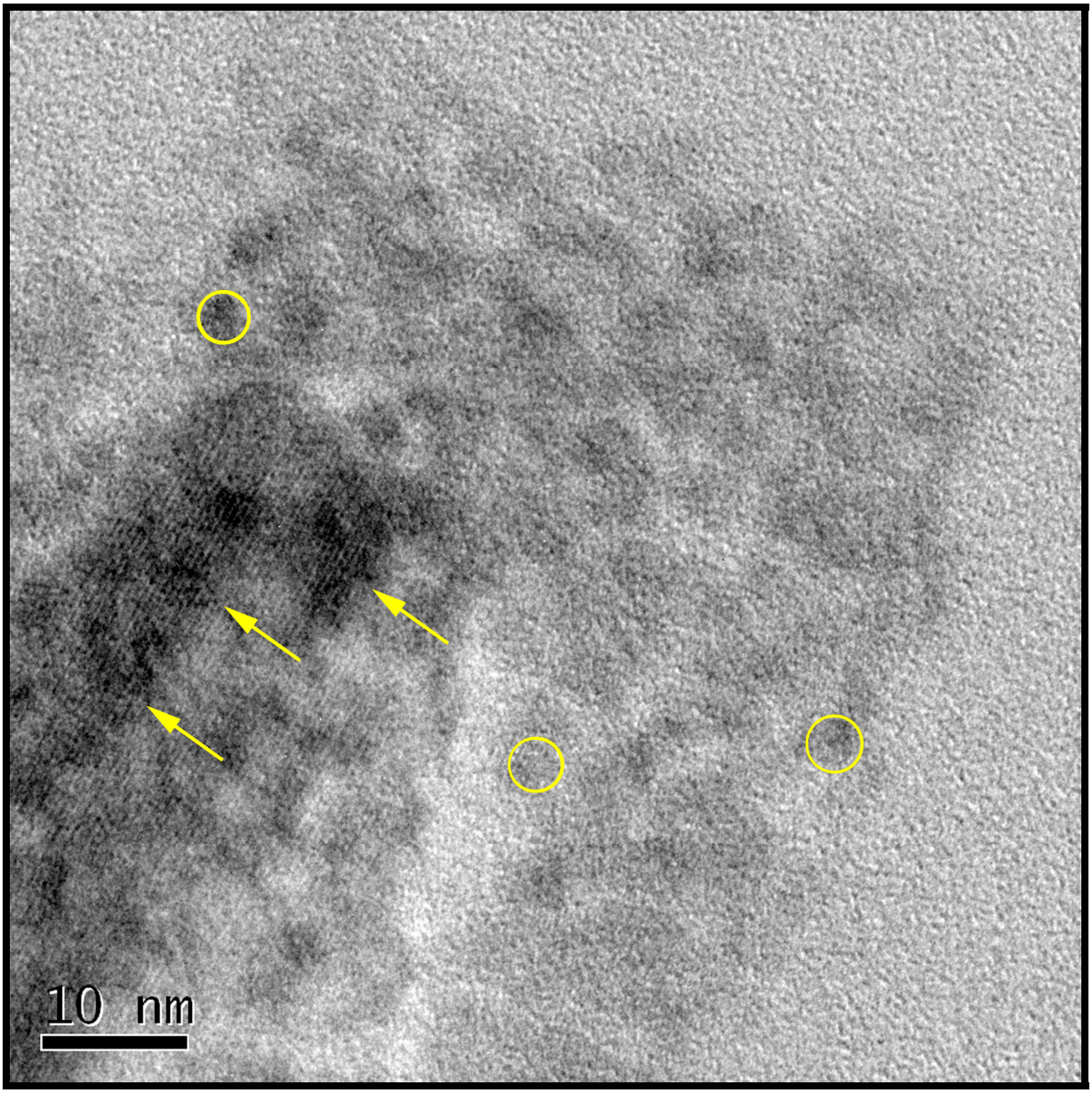

Figure S1. HRTEM image of Au BSA cluster. The lattice structures is marked in arrows and single clusters showed in yellow circles.

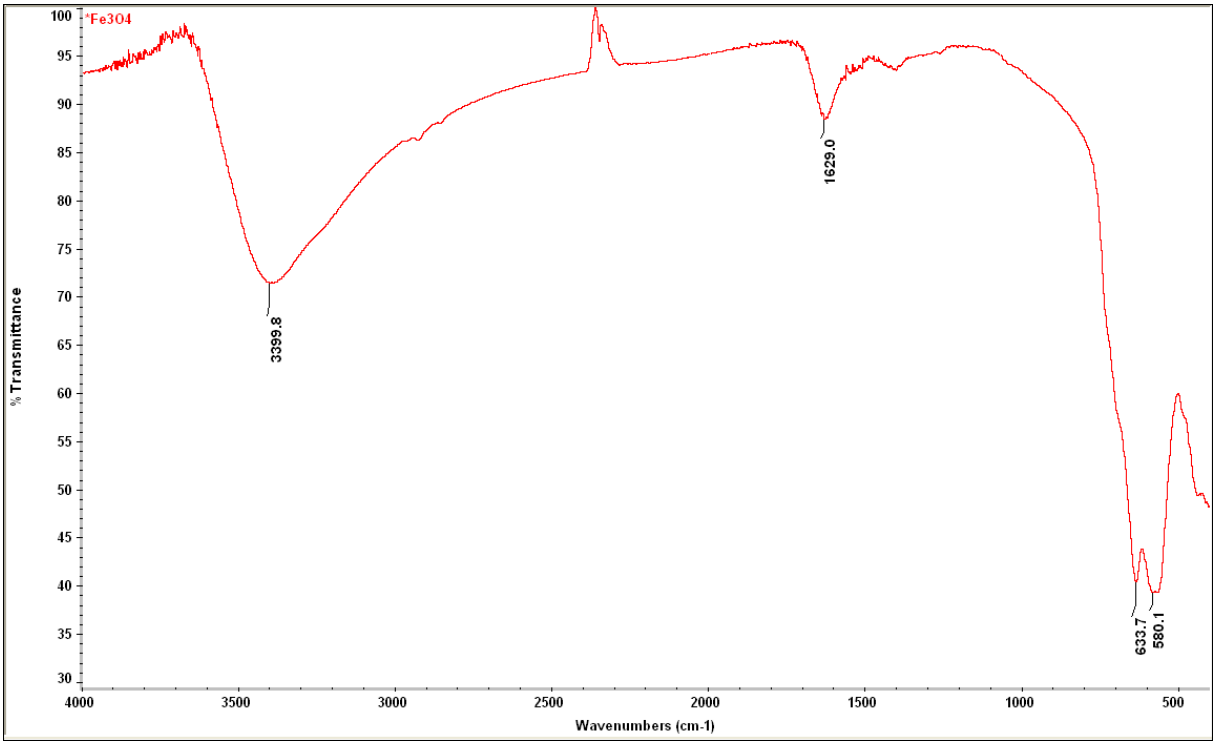

Figure S2. FTIR spectrum of the SPION. The characteristic peak at 580 cm^{-1} (Fe-O stretch) indicates that SPION mainly exists as Fe_3O_4

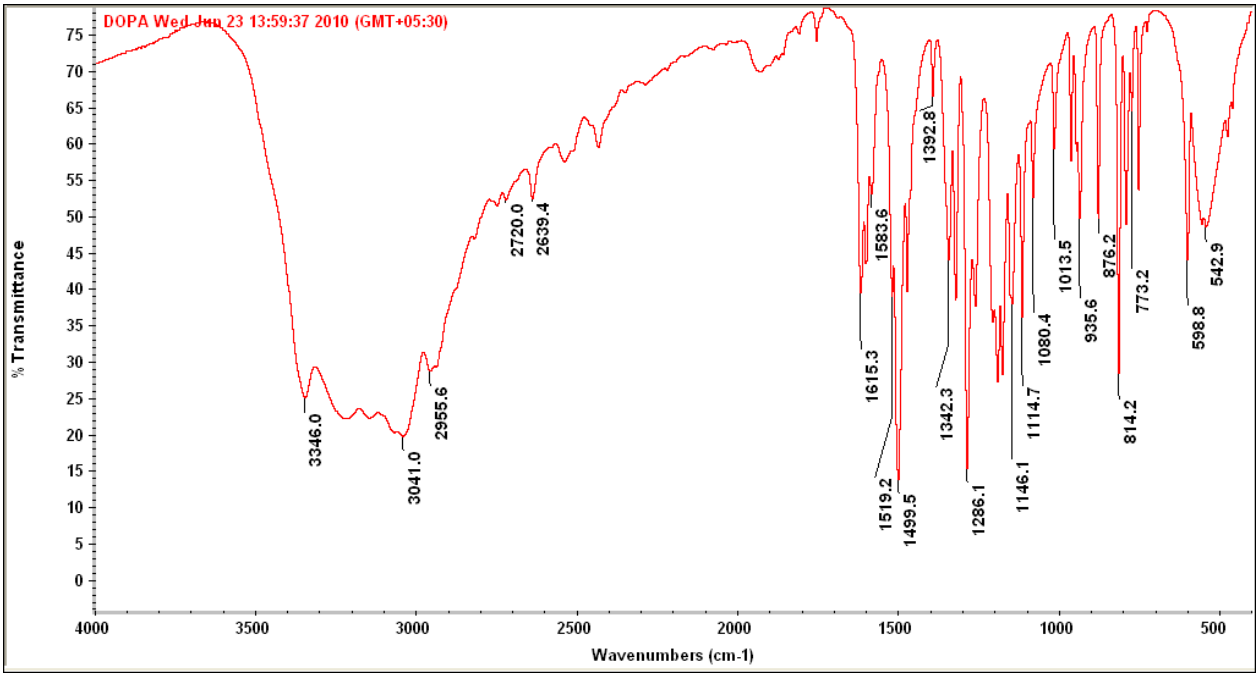

Figure S3. FTIR spectrum of Dopamine hydrochloride (DOPA). Characteristic primary amine bending and stretching modes can be seen at 1615 cm^{-1} and 1583 cm^{-1} and 3346 cm^{-1} respectively.

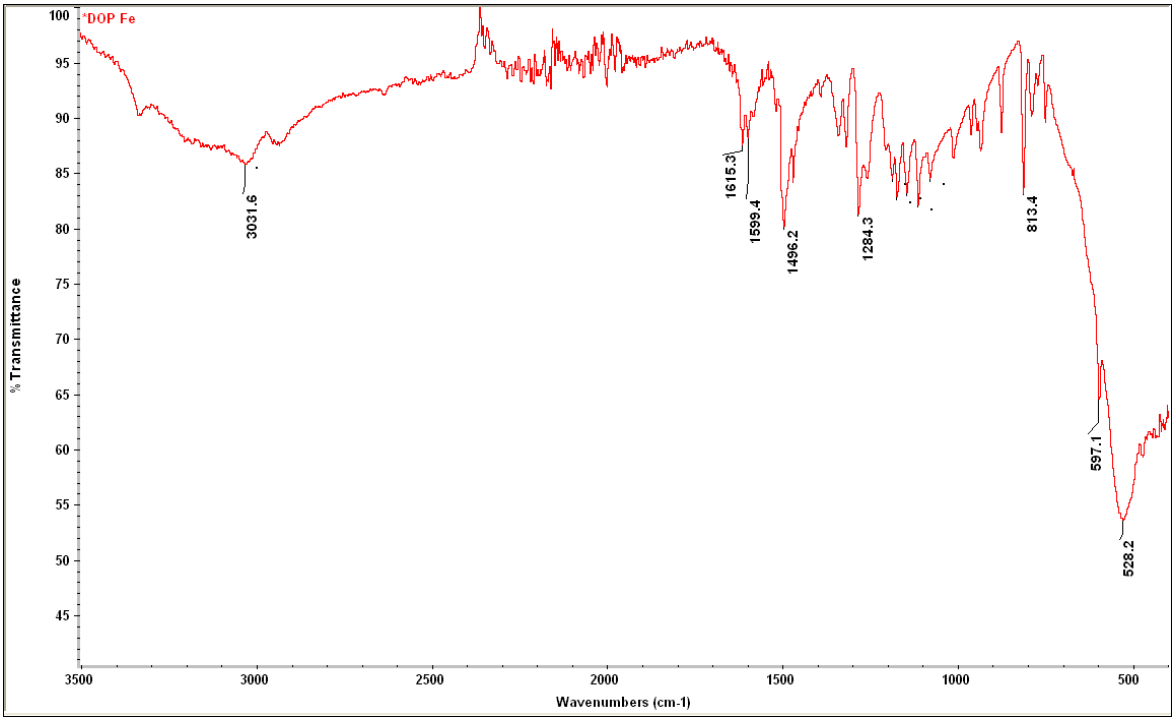

Figure S4. FTIR spectrum of the SPION after anchoring DOPA (DOP Fe) shows characteristic peaks of DOPA. Primary amine bending modes at 1615 cm^{-1} and 1599 cm^{-1} supports the conjugation of DOPA onto SPION.

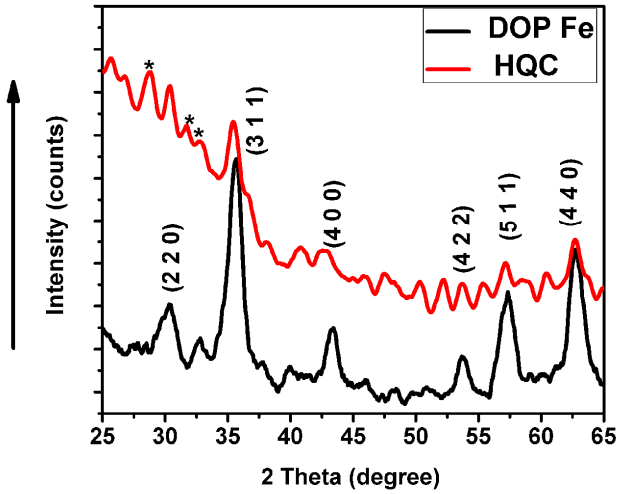

Figure S5. shows the XRD analysis of DOP Fe and HQC. The (h k l) indices of the DOP Fe are shown. The indices and some of the Braggs reflection of BSA are marked as *.

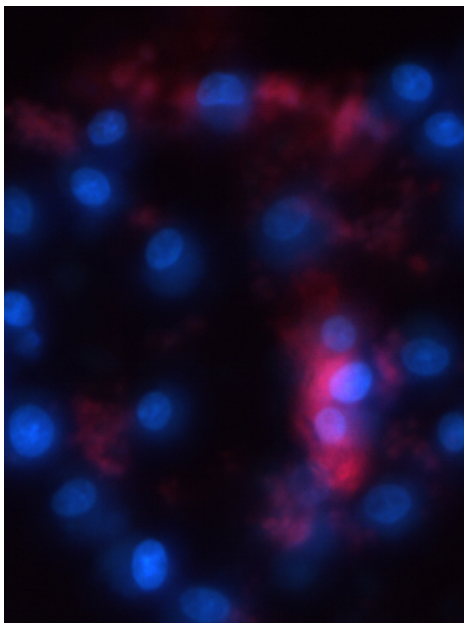

Figure S6. Fluorescent microscopic image of Au BSA transferrin conjugates treated C6 cells (Scale bar is 20 μm).

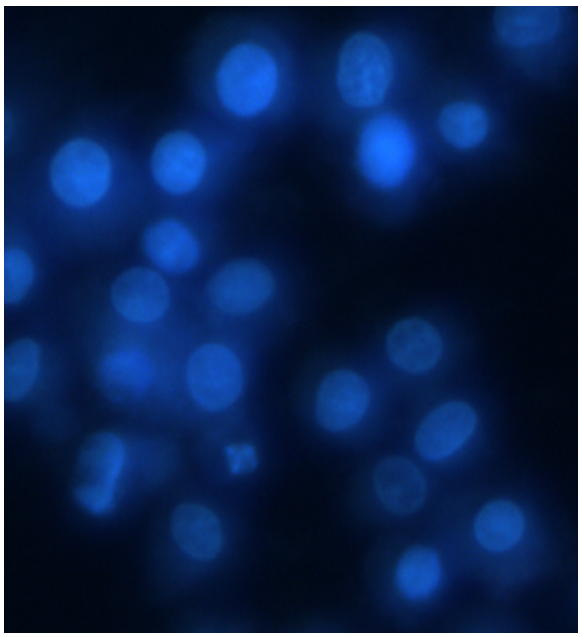

Figure S7. Fluorescent microscopic image of the cells separated from saline after incubation with DOP Fe (control experiment). No red fluorescence was observed here (the Scale bar is 20 μm).

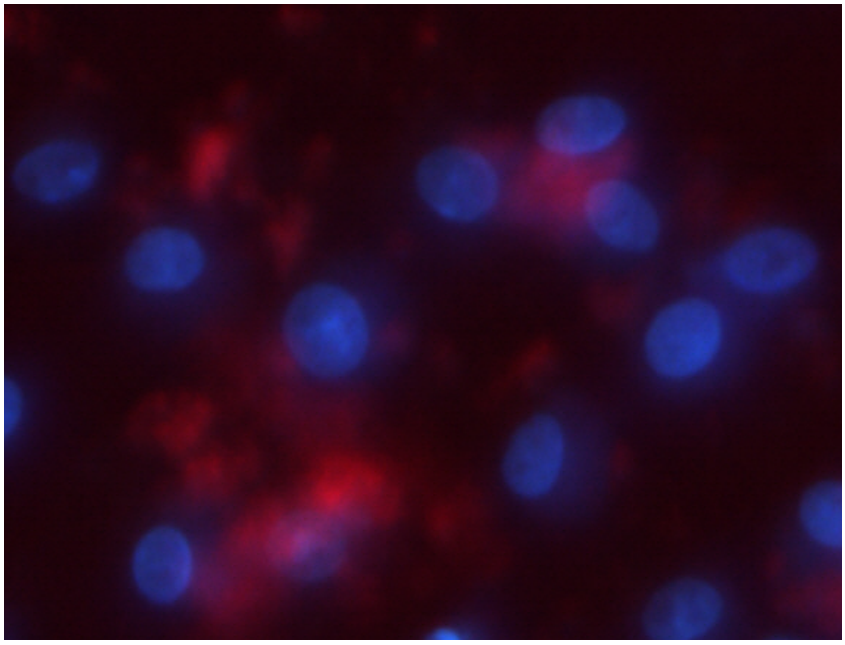

Figure S8. High resolution fluorescent microscopic image of the cells separated from normal saline after HQC treatment (scale bar 20 μm) .

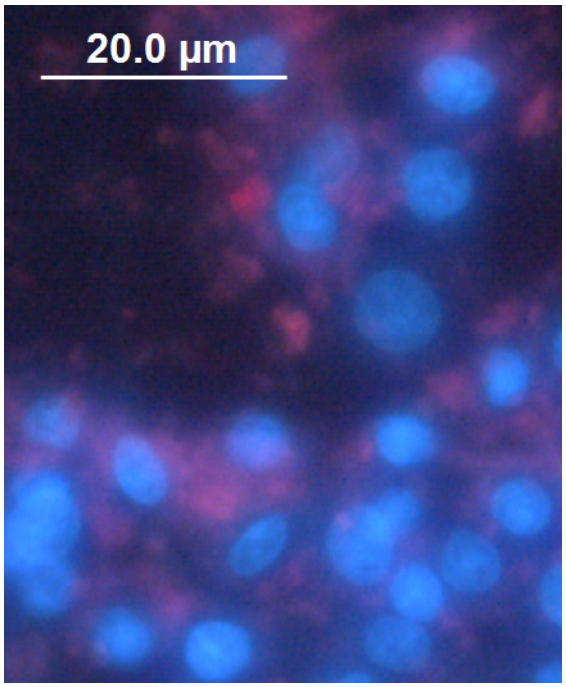

Figure S9. High resolution fluorescent microscopic image of the cells separated from blood after HQC treatment.