

### Supporting Information

#### Impact of Coating Type on Structure and Magnetic Properties of Biocompatible Iron Oxide Nanoparticles: Insights into Cluster Organization and Oxidation Stability

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## Morphology and Structure

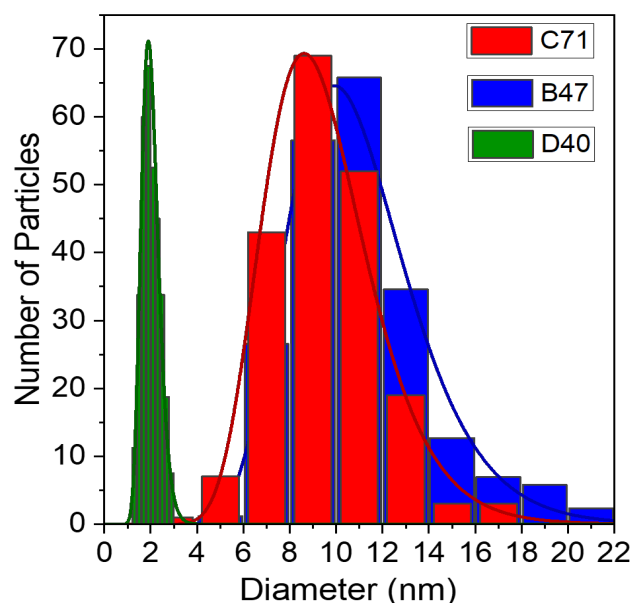


Figure 1: Histogram and log-normal fit of single cores distribution determined by TEM for the C71, B47, and D40 samples.

Table 1: The hydrodynamic size, polydispersity index (PDI), and Zeta potential (mV) for the C71, B47, and D40 samples.

Coating Material	Code	Hydrodynamic Size(nm)	PDI(a.u.)	Zeta Potential (mV)
Citrate	C71	67	0.258	-49
APTES	B47	201	0.251	43
Dextran	D40	37	0.216	-4

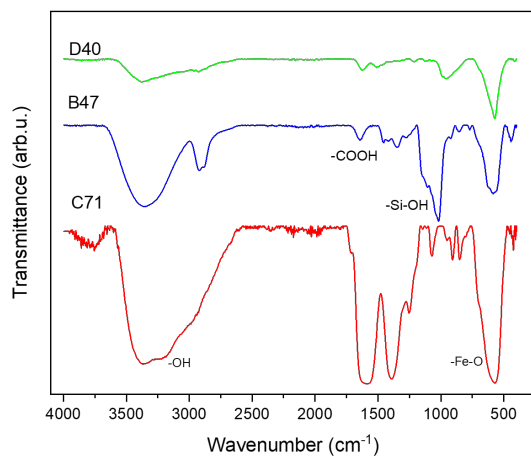


Figure 2: FT-IR spectra for the C71, B47, and D40 samples.

## Aging Study

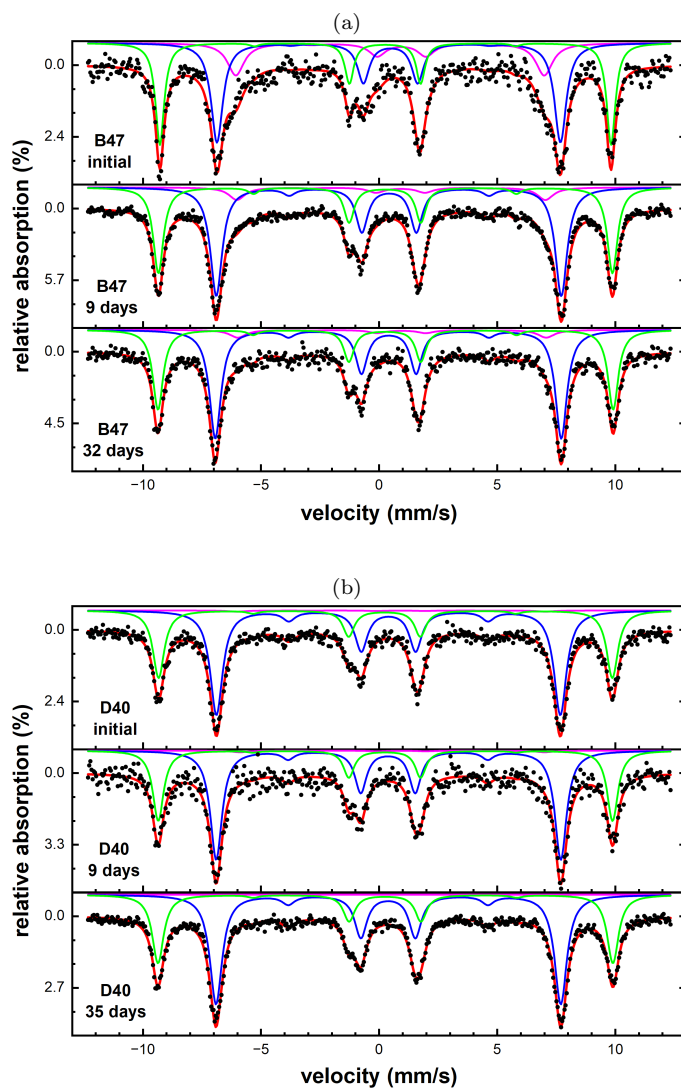


Figure 3: Mössbauer spectra for (a) sample B47 and (b) sample D40 after various aging times of exposure to air.

# Magnetic Size Determination

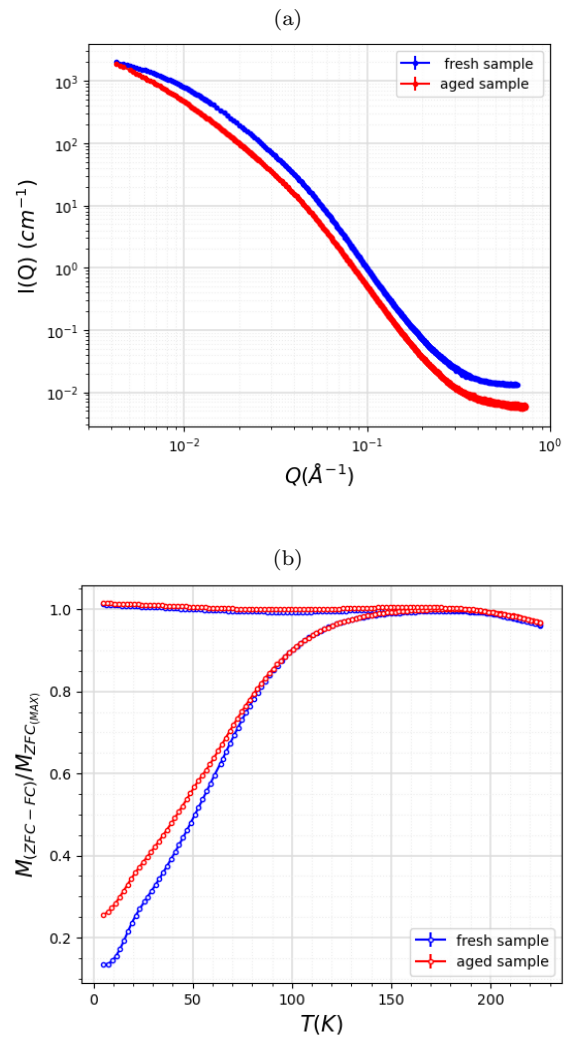


Figure 4: (a) SAXS curves, and (b) normalized ZFC/FC curves of the fresh sample and after 6 months from preparation for the C71 sample.