



Supplementary Information

Magnetic Properties of SmCo₅ + 10 wt% Fe Exchange-Coupled Nanocomposites Produced from Recycled SmCo₅

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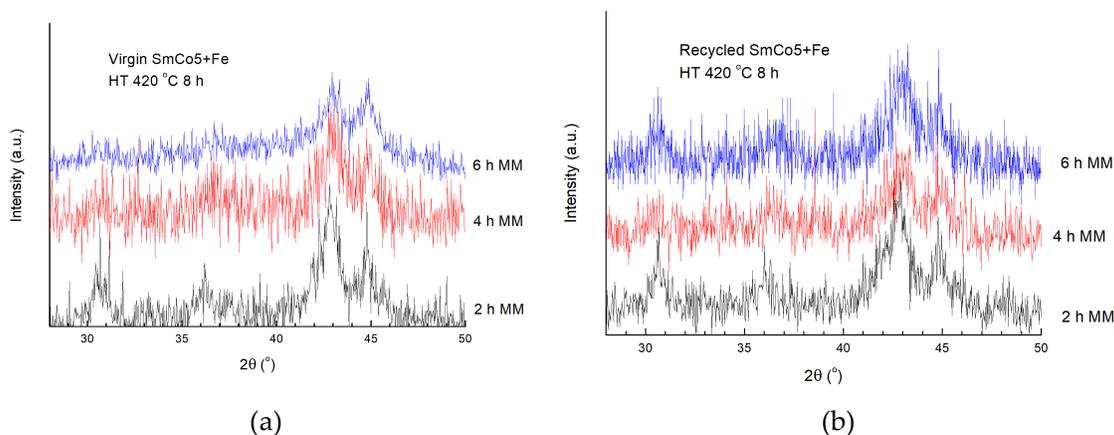


Figure S1. XRD patterns for SmCo₅ + 10 wt% Fe magnetic nanocomposite, made using (a) virgin or (b) recycled SmCo₅, milled for 2, 4 and 6 h and annealed at 420 °C for 8 h.

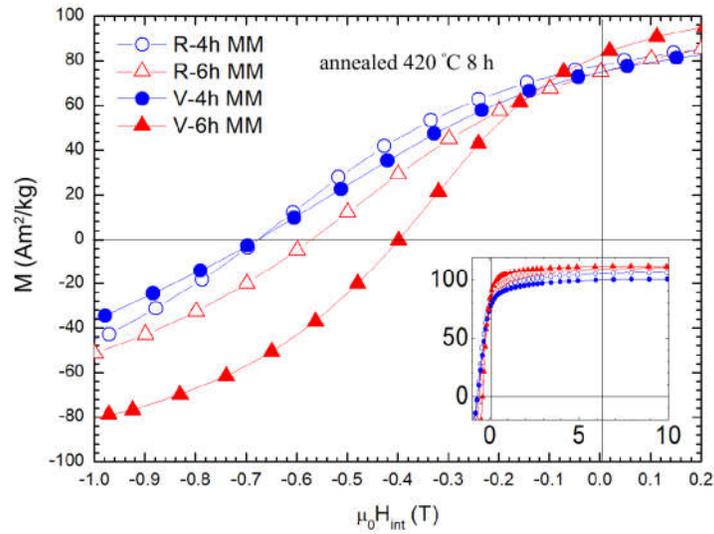


Figure S2. Demagnetization curves (recorded at 300 K) for $\text{SmCo}_5 + 10 \text{ wt\% Fe}$ magnetic nanocomposite, made using virgin (V) or recycled (R) SmCo_5 , milled for 4 and 6 h and annealed at $420 \text{ }^\circ\text{C}$ for 8 h. Magnetization curves for the samples, up to 10 T, are given in figure inset.

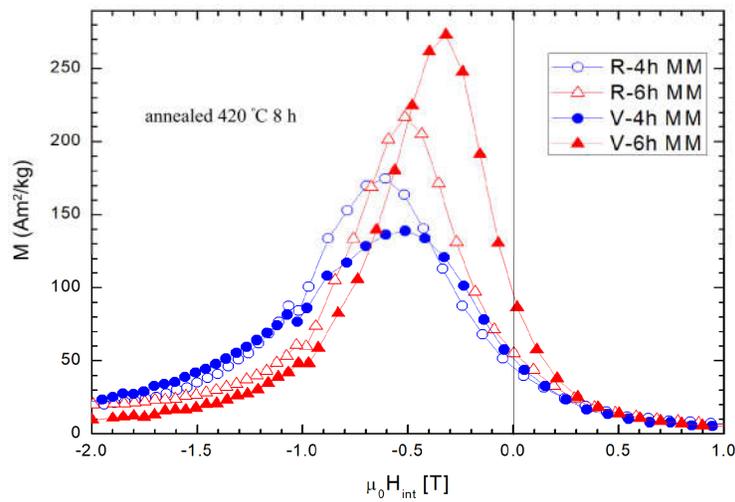


Figure S3. dM/dH vs H plots (recorded at 300 K) for $\text{SmCo}_5 + 10 \text{ wt\% Fe}$ magnetic nanocomposite, made using virgin (V) or recycled (R) SmCo_5 , milled for 4 and 6 h and annealed at $420 \text{ }^\circ\text{C}$ for 8 h.

As seen in Figures 2,3 the magnetic properties of the nanocomposites annealed at $420 \text{ }^\circ\text{C}$ is much lower than that of the samples annealed at higher temperature (presented in manuscript). Mere strain removal is not enough to ensure good magnetic performance.

