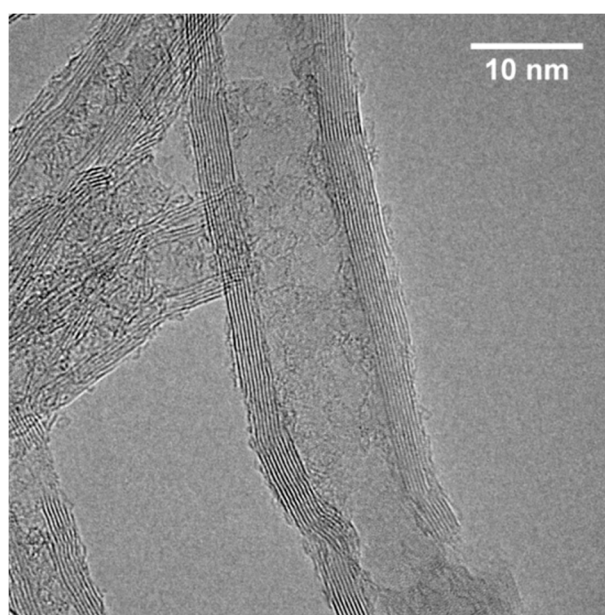


Supplementary Materials: Dysprosium Acetylacetonato Single-Molecule Magnet Encapsulated in Carbon Nanotubes

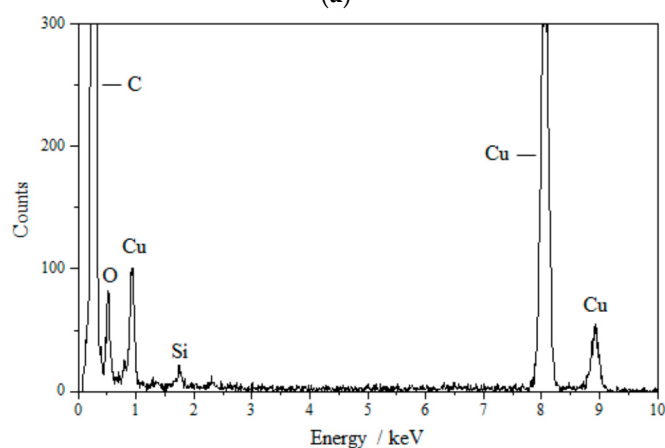
Ryo Nakanishi, Mudasir Ahmad Yatoo, Keiichi Katoh, Brian K. Breedlove and Masahiro Yamashita

Table S1. Selected values of ΔE and τ_0 for $\text{Dy}(\text{acac})_3(\text{H}_2\text{O})_2@\text{MWCNTs}$ estimated from the Kramers-Kronig equation.

ν/Hz	240	440	597	808	1102
$\Delta E/\text{cm}^{-1}$	4.2	4.0	4.0	4.0	4.7
τ_0/s	5.0×10^{-6}	3.4×10^{-6}	2.8×10^{-6}	2.3×10^{-6}	1.7×10^{-6}

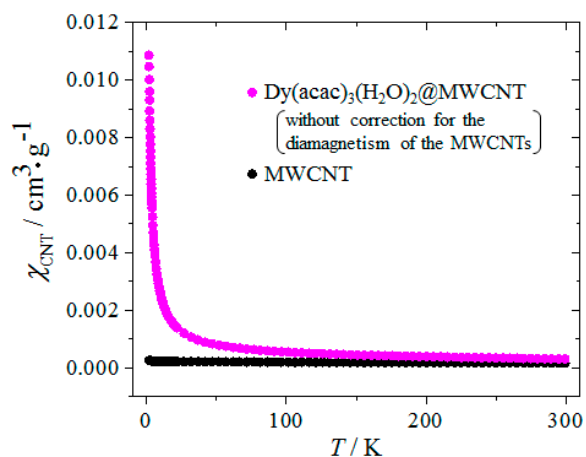


(a)

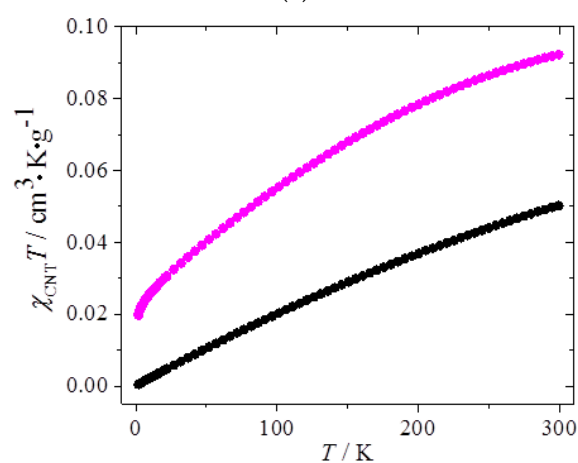


(b)

Figure S1. (a) TEM image of empty MWCNT; (b) EDX spectrum acquired for the sample in (a).

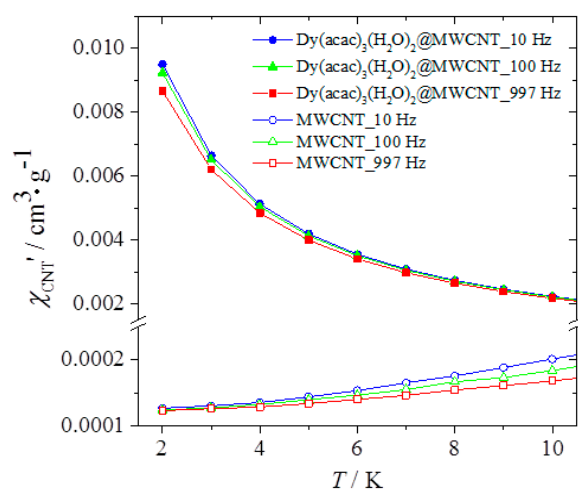


(a)



(b)

Figure S2. (a) χ_{CNT} and (b) $\chi_{\text{CNT}}T$ vs. T plots for MWCNT (black filled circles) and $\text{Dy}(\text{acac})_3(\text{H}_2\text{O})_2\text{@MWCNTs}$ without correction for the diamagnetism of the MWCNTs (pink circles). χ_{CNT} values were obtained by normalizing the obtained magnetic moment with the mass of CNT after applying the diamagnetic corrections using Pascal's constants.



(a)

Figure S3. Cont.

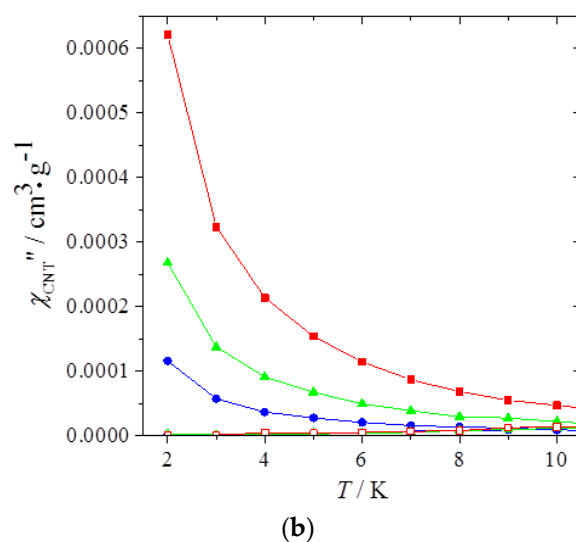


Figure S3. (a) χ_{CNT}' and (b) χ_{CNT}'' vs. T for Dy(acac)₃(H₂O)₂@MWCNT (filled symbols) and MWCNT (open squares) in an H_{DC} of 0 Oe. The measurements were performed in an H_{AC} of 3 Oe and T range of 10–2 K. χ_{CNT}' and χ_{CNT}'' were obtained by normalizing the obtained magnetic moment with the mass of CNT after applying the diamagnetic corrections using Pascal's constants.

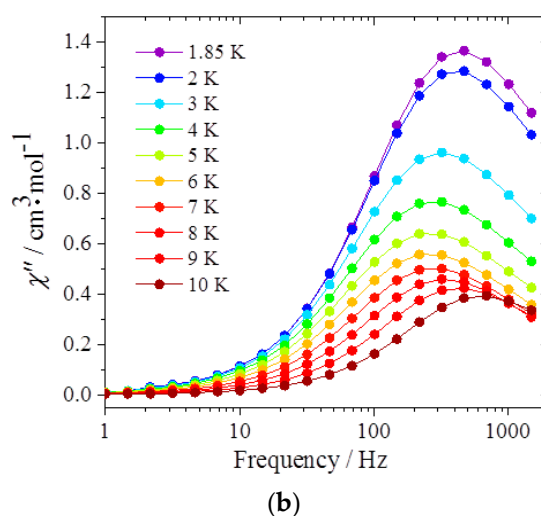
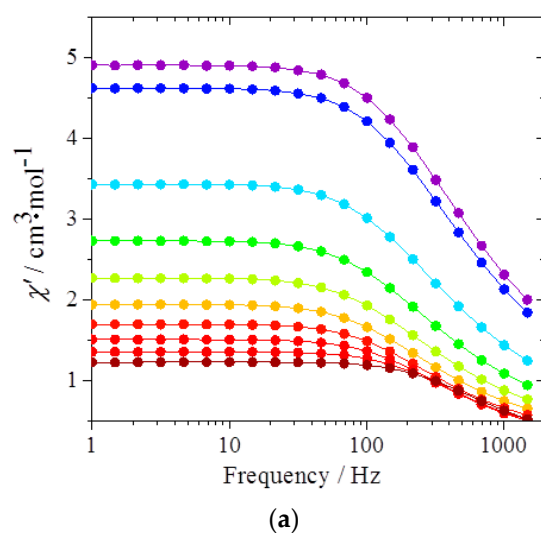


Figure S4. (a) χ' and (b) χ'' vs. frequency plots for Dy(acac)₃(H₂O)₂ in an H_{DC} of 0 Oe. The measurements were performed in an H_{AC} of 3 Oe and T range of 10–1.85 K. The solid lines are guides for eyes.