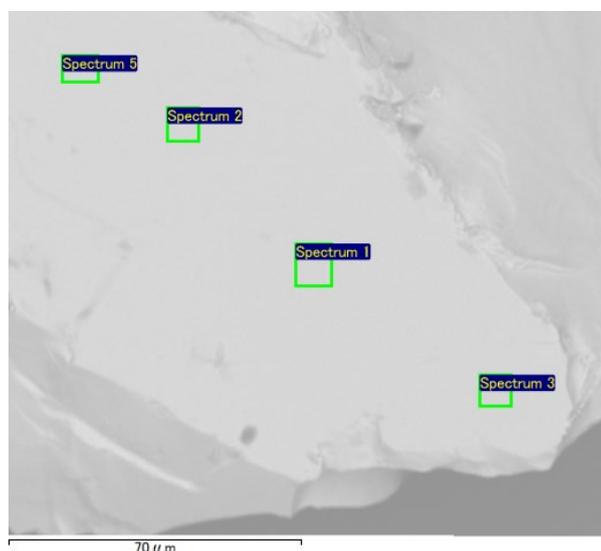


## Supporting Information

### High-pressure synthesis and magnetic properties of $\text{Gd}_2\text{Rh}_3\text{Al}_9$ with a distorted honeycomb lattice

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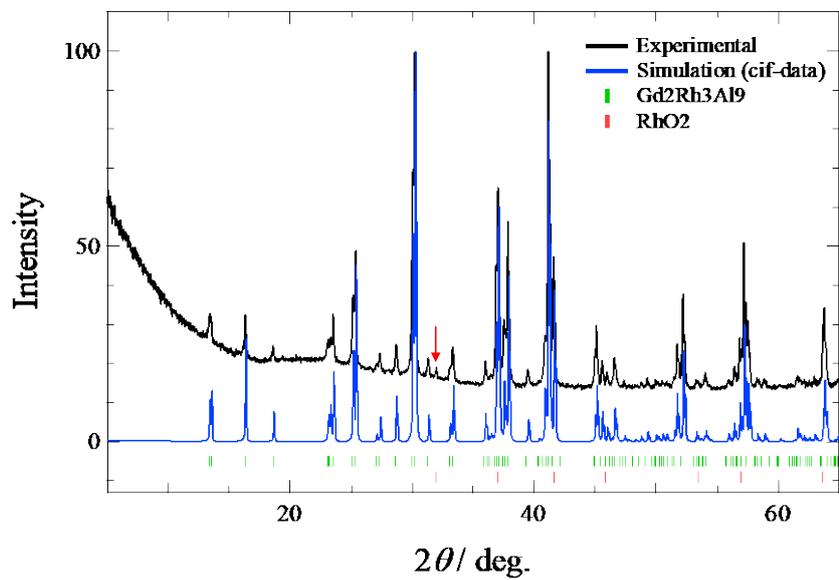


**Fig. S1: SEM image of the selected specimen with the marked area where EDX measurements were performed.**

**Table S1: Composition Ratios Obtained by EDX Measurements.**

Atomic [%]	Spectrum 1	Spectrum 2	Spectrum 3	Spectrum 5*	Average
Gd	1.727	1.742	1.680	1.787	<b>1.73(4)</b>
Rh	3.106	3.156	3.069	3.070	<b>3.10(4)</b>
Al	9.167	9.102	9.251	9.143	<b>9.17(5)</b>
Total	14	14	14	14	

\* Spectrum 4 was accidentally skipped.



**Fig. S2: Powder XRD diffraction pattern for the polycrystalline  $\text{Gd}_2\text{Rh}_3\text{Al}_9$  used in this study. The simulation curve (blue) utilizes data obtained from the single crystal structural analysis.**