

## SUPPLEMENTARY INFORMATION

### Structure and magnetic properties of hexagonal perovskite-type rare-earth vanadium germanides $REVGe_3$ ( $RE = La-Nd$ )

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**Table S1** Hexagonal unit cell parameters for  $LaV_{1-x}Cr_xGe_3$  and  $LaCr_{1-x}Mn_xGe_3$  compounds

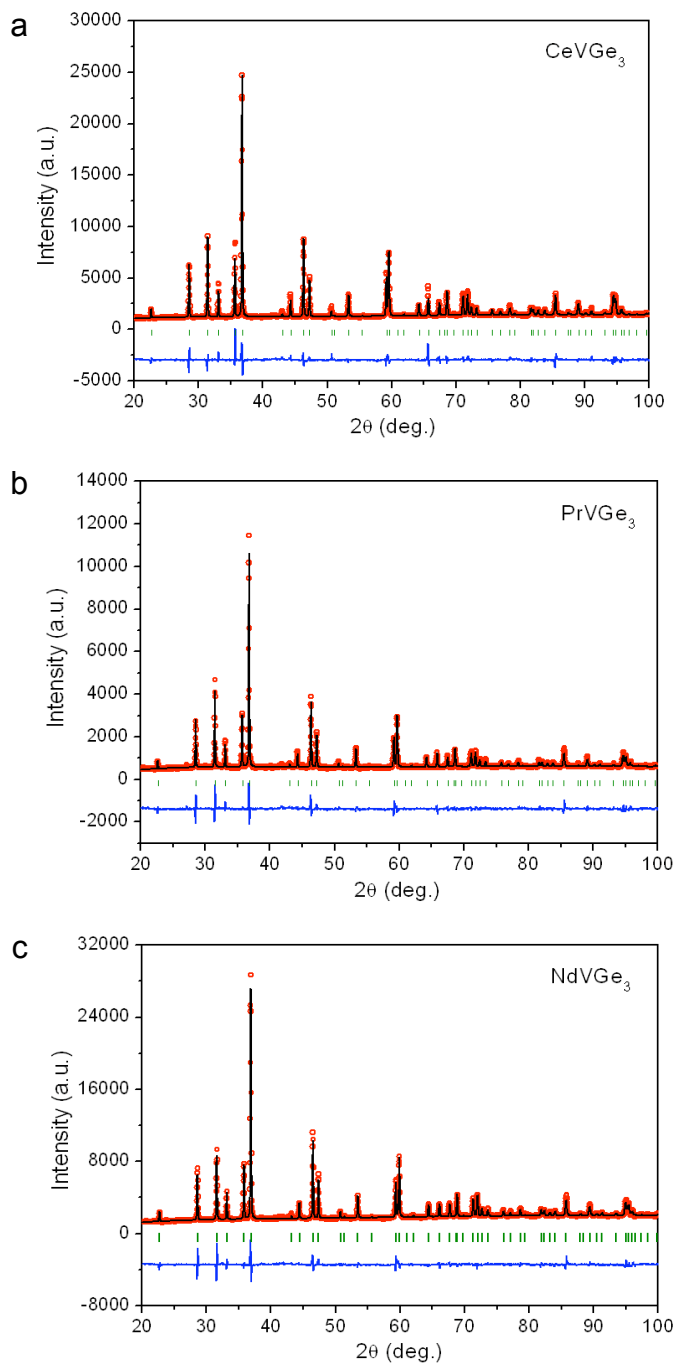
**Fig. S1** Rietveld refinement results for (a)  $CeVGe_3$ , (b)  $PrVGe_3$ , and (c)  $NdVGe_3$ . The observed profile is indicated by circles and the calculated profile by the solid line. Bragg peak positions are located by the vertical tick marks. The difference plot is shown at the bottom.

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**Table S1** Hexagonal unit cell parameters for  $\text{LaV}_{1-x}\text{Cr}_x\text{Ge}_3$  and  $\text{LaCr}_{1-x}\text{Mn}_x\text{Ge}_3$  compounds

Compound	$a$ (Å)	$c$ (Å)	$V$ (Å <sup>3</sup> )	$c/a$ ratio
$\text{LaV}_{0.8}\text{Cr}_{0.2}\text{Ge}_3$	6.2972(1)	5.7371(1)	195.895(9)	0.9111
$\text{LaV}_{0.6}\text{Cr}_{0.4}\text{Ge}_3$	6.2601(1)	5.7446(1)	194.963(7)	0.9177
$\text{LaV}_{0.4}\text{Cr}_{0.6}\text{Ge}_3$	6.2390(1)	5.7414(1)	193.54(1)	0.9202
$\text{LaV}_{0.1}\text{Cr}_{0.9}\text{Ge}_3$	6.2145(1)	5.7588(1)	192.61(1)	0.9267
$\text{LaCr}_{0.9}\text{Mn}_{0.1}\text{Ge}_3$	6.2036(1)	5.7638(1)	192.098(9)	0.9291
$\text{LaCr}_{0.8}\text{Mn}_{0.2}\text{Ge}_3$	6.2019(1)	5.7637(1)	191.988(8)	0.9293



**Fig. S1** Rietveld refinement results for (a) CeVGe<sub>3</sub>, (b) PrVGe<sub>3</sub>, and (c) NdVGe<sub>3</sub>. The observed profile is indicated by circles and the calculated profile by the solid line. Bragg peak positions are located by the vertical tick marks. The difference plot is shown at the bottom.