Supplementary Information

Two dimensional CrGa$_2$Se$_4$: A spin-gapless ferromagnetic semiconductor with inclined uniaxial anisotropy

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Table S1 Energy difference with respect to the T-I configuration for different T and H structures.

<table>
<thead>
<tr>
<th></th>
<th>T-I</th>
<th>T-II</th>
<th>T-III</th>
<th>H-I</th>
<th>H-II</th>
<th>H-III</th>
</tr>
</thead>
<tbody>
<tr>
<td>ΔE(eV/f.u.)</td>
<td>0.000</td>
<td>0.022</td>
<td>0.028</td>
<td>0.374</td>
<td>0.386</td>
<td>0.398</td>
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</tbody>
</table>

Fig. S1 Side views of three H-type configurations for CrGa$_2$Se$_4$ monolayer.
Fig. S2 AIMD evolutions of temperature and total energy of single-layer $\text{CrGa}_2\text{Se}_4$ and its structural snapshot at 6 ps.

Fig. S3 Spin-polarized HSE band structure of $\text{CrGa}_2\text{Se}_4$ monolayer with the projection on Se-p and Ga-s orbitals.