

## SUPPORTING INFORMATION

### Electrochemistry of layered metal diborides

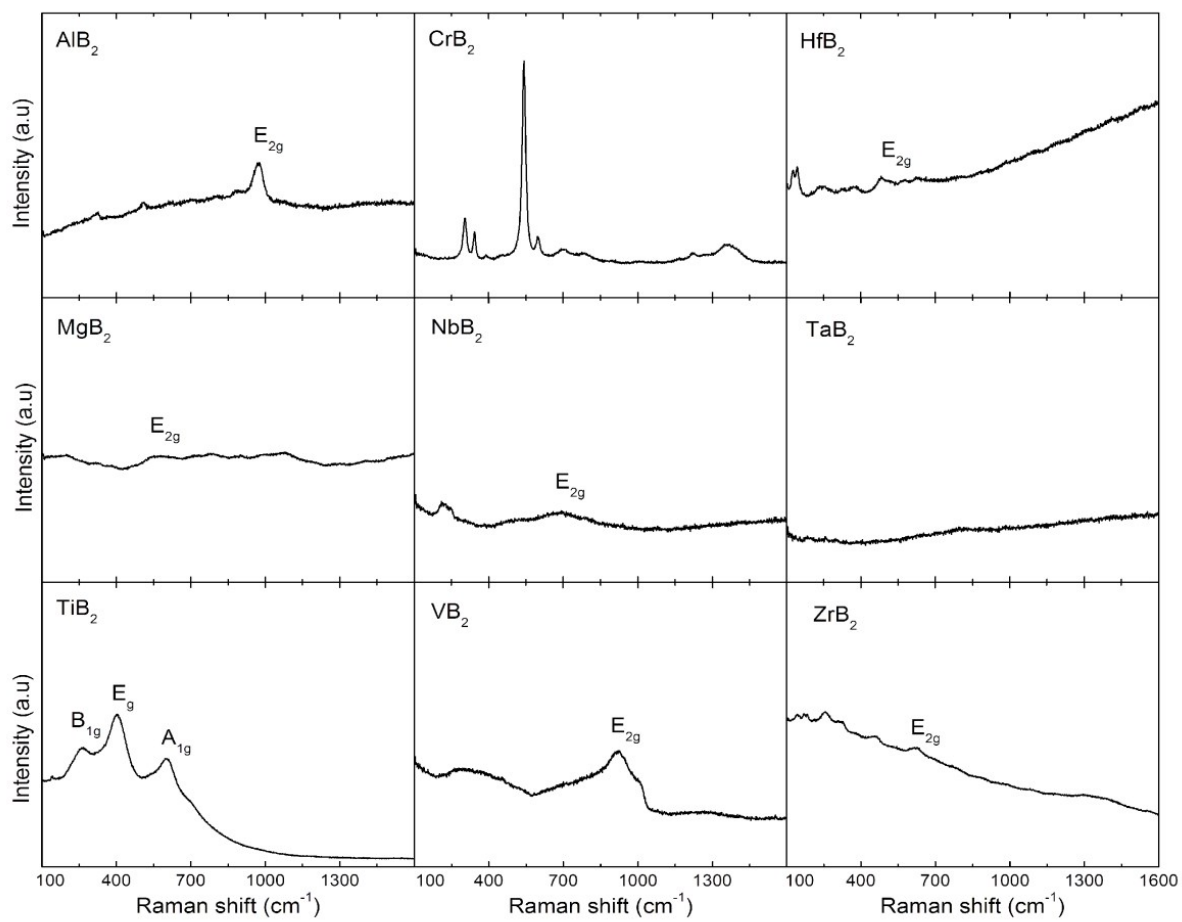
V. Mazánek<sup>a</sup>, Hindia Nahdi<sup>b</sup>, J. Luxa<sup>a</sup>, Z. Sofer<sup>a</sup>, M. Pumera<sup>a,b</sup>

<sup>a</sup> University of Chemistry and Technology, Department of Inorganic Chemistry, 166 28 Prague 6, Czech Republic. E-mail: zdenek.sofer@vscht.cz, Fax: +420 22431-0422

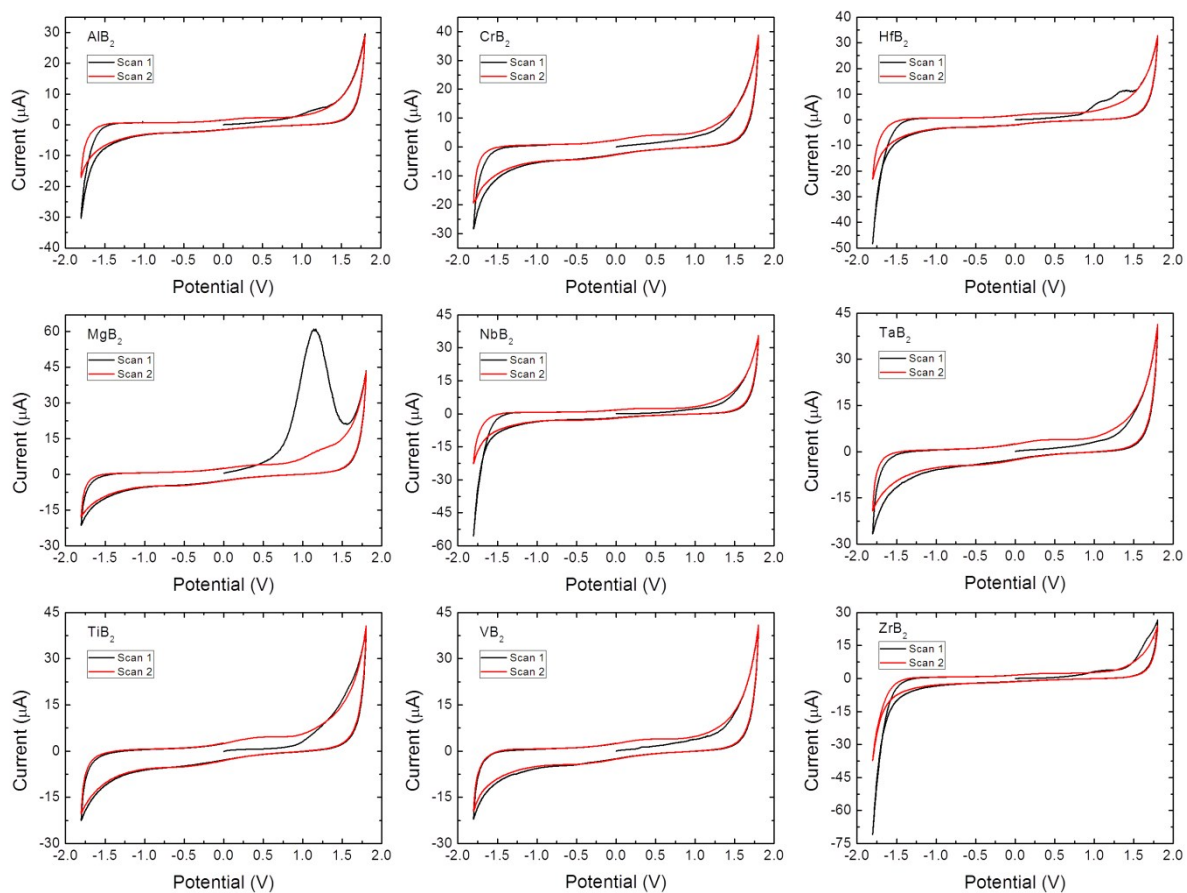
<sup>b</sup> Division of Chemistry & Biological Chemistry, School of Physical and Mathematical Sciences, Nanyang Technological University, Nanyang Link 21, Singapore, 637371, Singapore. Fax: +65 6791-1961, E-mail: pumera@ntu.edu.sg

**Table SI1.** List of powder diffraction files used for identification of phase composition from diffractograms.

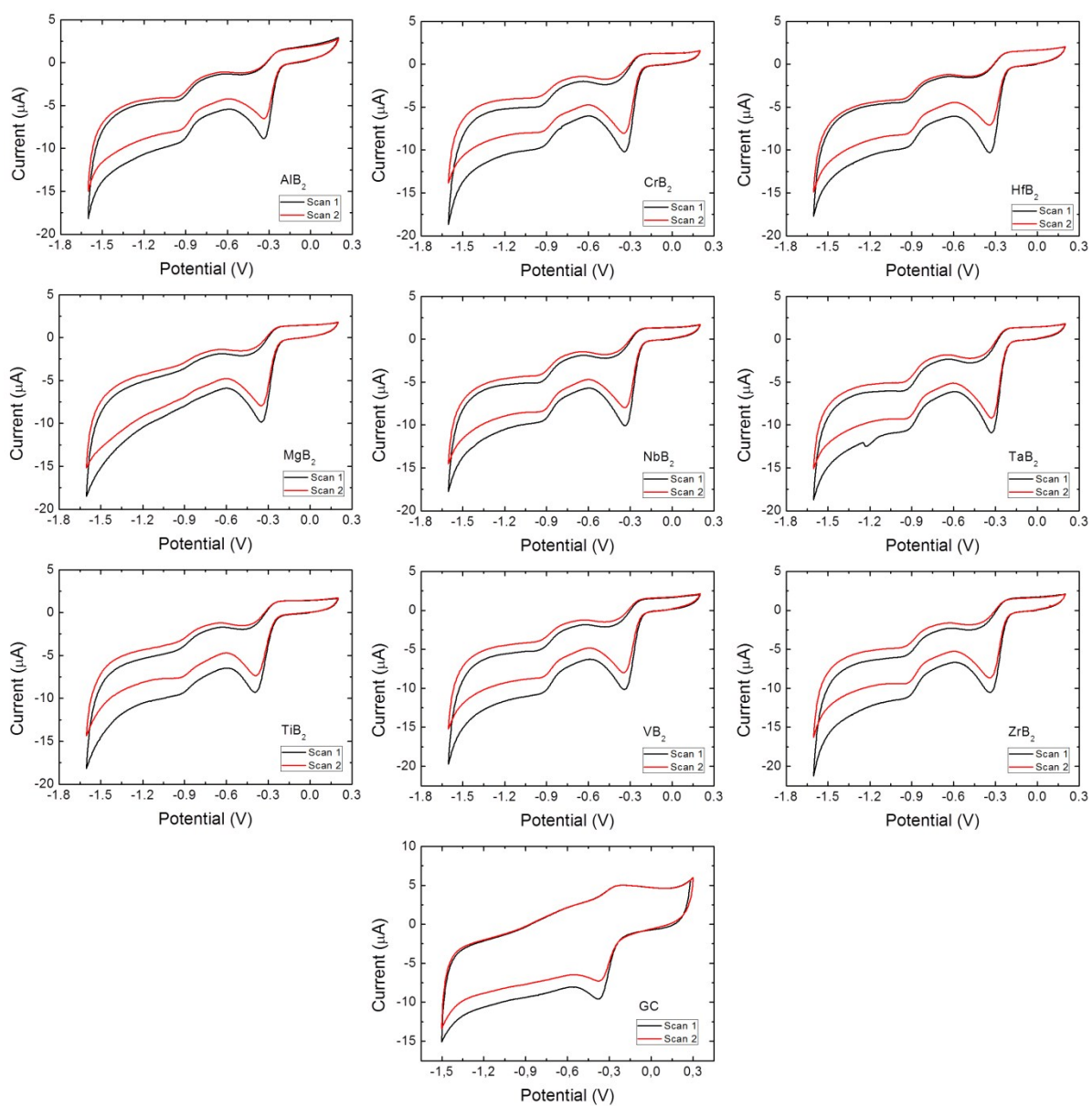
Phase	PDF	Phase	PDF	Phase	PDF
<b>AlB<sub>2</sub></b>	04-010-4305	<b>HfB</b>	04-004-7156	<b>TiB<sub>2</sub></b>	03-065-1073
<b>Al<sub>2</sub>O<sub>3</sub></b>	01-076-8057	<b>MgB<sub>2</sub></b>	04-013-1803	<b>TiN</b>	03-065-0414
<b>Al</b>	04-003-4850	<b>MgO</b>	04-012-3469	<b>VB<sub>2</sub></b>	04-006-2024
<b>CrB<sub>2</sub></b>	04-003-6119	<b>MgB<sub>4</sub></b>	03-065-1310	<b>VO<sub>2</sub></b>	04-005-7410
<b>Cr<sub>3</sub>B<sub>4</sub></b>	04-003-0080	<b>NbB<sub>2</sub></b>	03-065-0512	<b>ZrB<sub>2</sub></b>	04-004-2991
<b>HfB<sub>2</sub></b>	04-001-1202	<b>TaB<sub>2</sub></b>	01-075-0966	<b>ZrB</b>	03-065-2907



**Figure S1.** Raman spectra of layered diborides.



**Figure S2.** Inherent electrochemistry of layered diborides. The scan start at 0.0 V vs. sat. Ag/AgCl in anodic direction. Conditions: supporting electrolyte 50 mM PBS pH 7.2 scan rate 100 mVs<sup>-1</sup>.



**Figure S3.** ORR measured by cyclic voltammetry on layered diborides and bare GC electrode.