Supplementary Material to the article

"3D $(H-\varphi-\theta)$ magnetic phase diagram of ErB_{12} antiferromagnet with dynamic charge stripes"

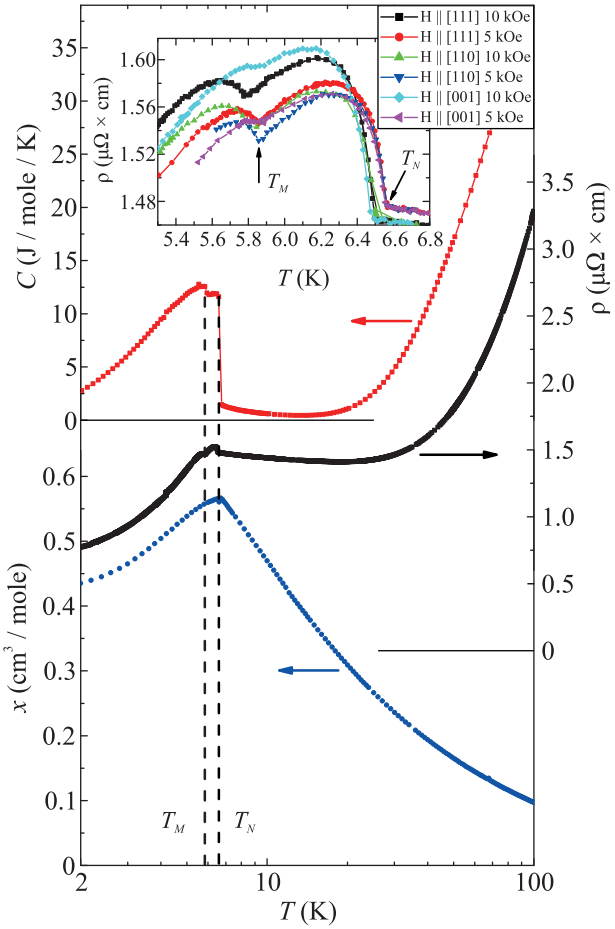

Fig. S1. Temperature dependences of heat capacity, resistivity and magnetic susceptibility of ErB_{12}. T_N and T_M are magnetic transition temperatures. The inset shows, on an enlarged scale, the temperature dependences of resistivity in the vicinity of the antiferromagnetic (AF) transition for various magnitudes and directions of the external magnetic field

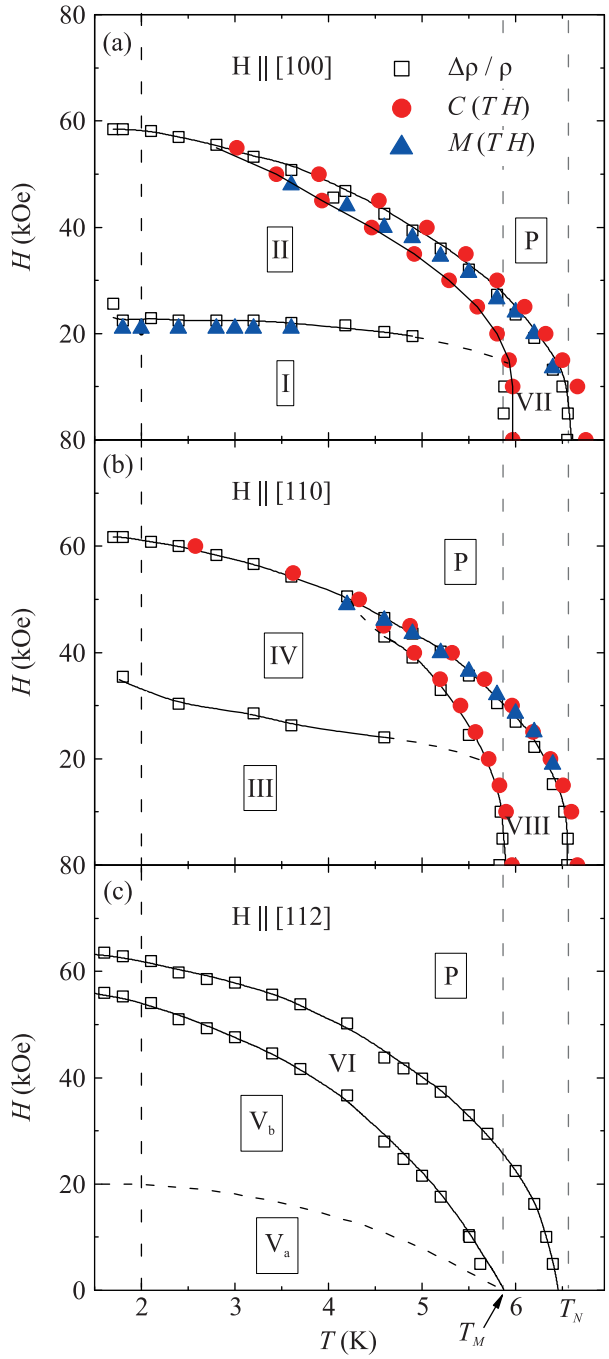

Fig. S2. Magnetic phase $H-T$ diagrams of $Er_{11}B_{12}$ for the directions of the external magnetic field **H**||[100] (a), **H**||[110] (b) and **H**||[112] (c) constructed from the data of magnetoresistance, magnetization and heat capacity (see legend on the panel (a)). Roman numerals indicate various magnetically ordered phases. The vertical dotted line marks the temperature where the 3D phase diagram is constructed

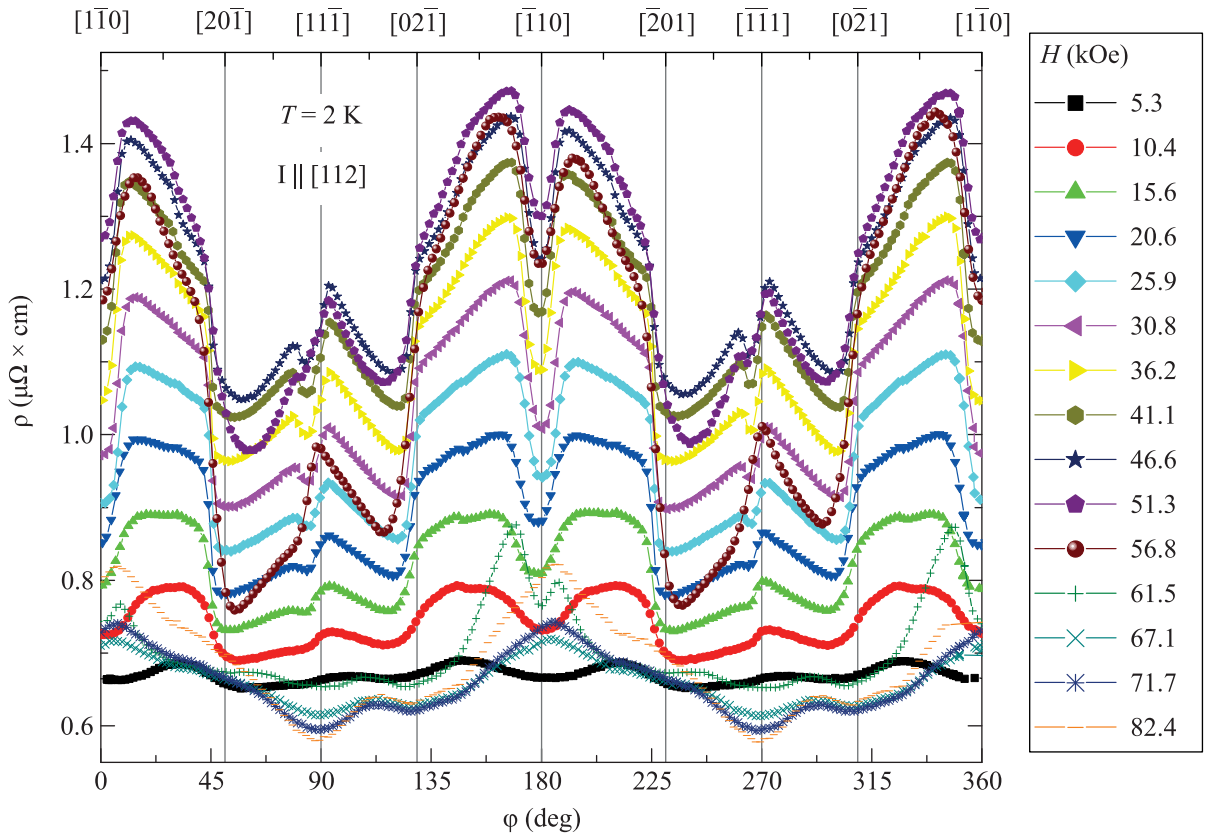

Fig. S3. Angular dependences of the magnetoresistance $\Delta\rho/\rho = f(H, \varphi)$ in $Er^{11}B_{12}$ for various magnitudes of the external magnetic field obtained in an experiment with sample rotation around the current direction $\mathbf{I}\|[112]$ at $T = 2\,\mathrm{K}$

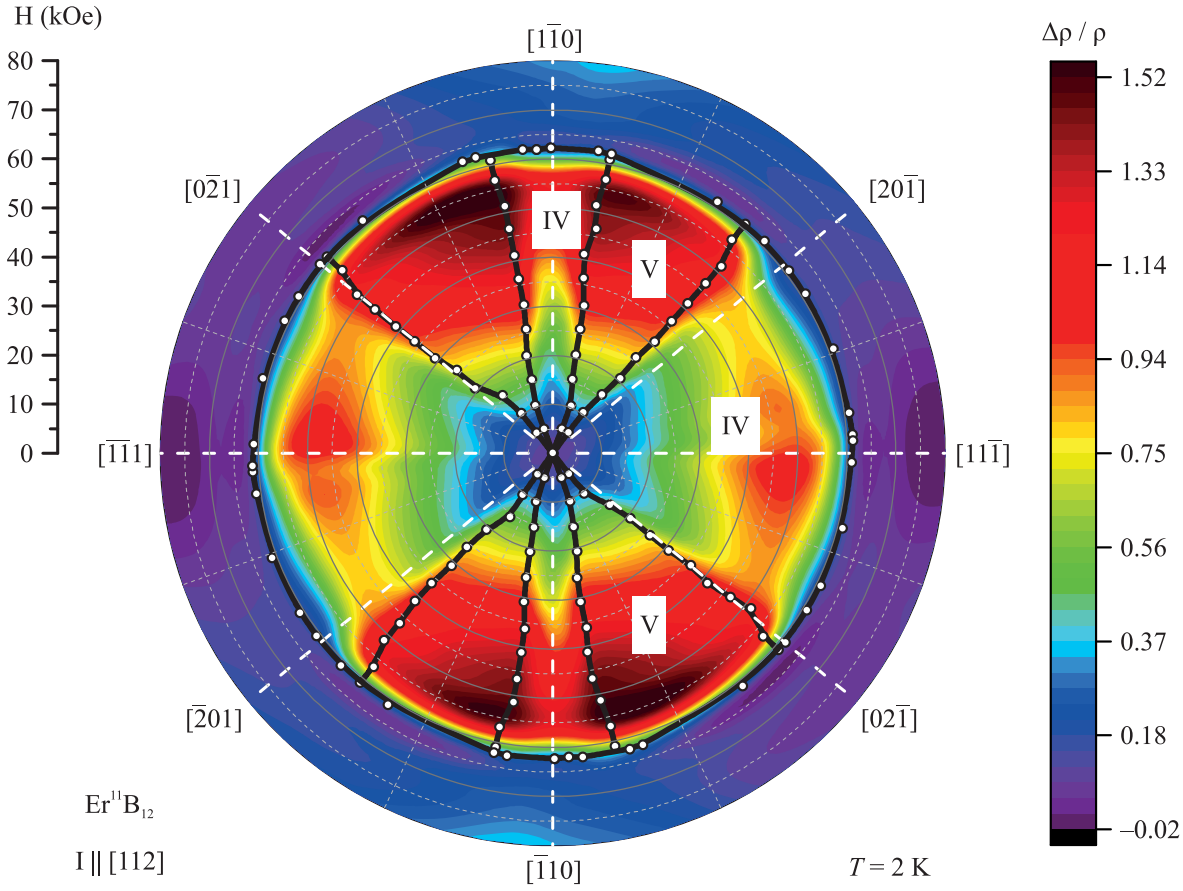

Fig. S4. Magnetoresistance $\Delta\rho/\rho = f(H, \varphi)$ in $Er_{11}B_{12}$ in polar coordinates for current direction $\mathbf{I}\|[112]$ at $T = 2\,\mathrm{K}$. Roman numerals show different magnetic phases in the AF state (phase numbering from [21] is retained)

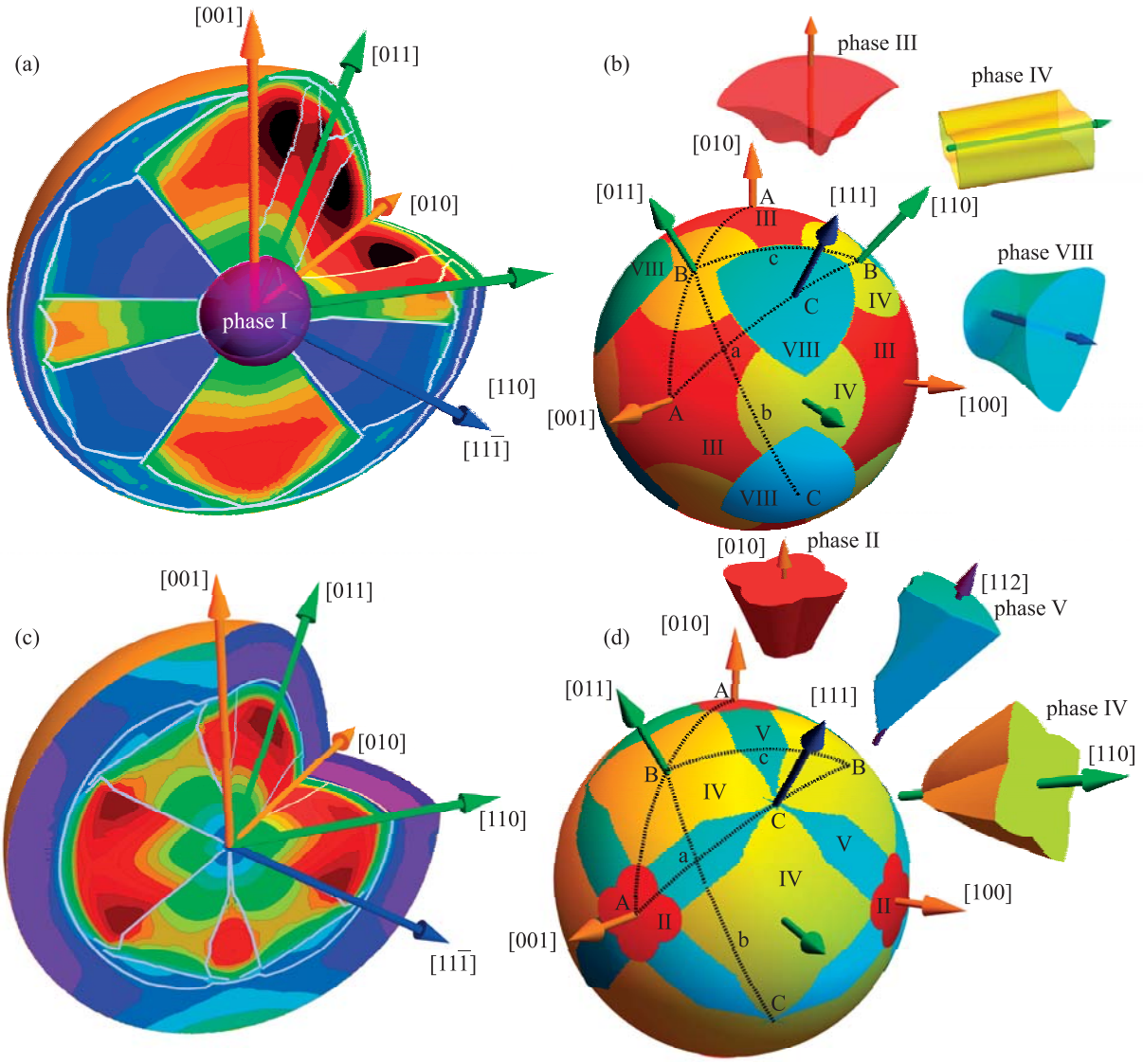

Fig. S5. Comparison of 3D ($H-\varphi-\theta$) magnetic phase diagrams of HoB_{12} (panels (a), (b)) and ErB_{12} (panels (c), (d)) at $T = 2\,\mathrm{K}$. (b), (d) show sections of magnetic phases by the sphere $H = 50\,\mathrm{kOe}$