



Figure 4: Micromagnetic structures of octahedra, minimally truncated octahedra and regular truncated octahedra. Left column (a, d, g) shows the largest SD solutions at d_{\max} , obtained by interpolating from solutions for smaller grains starting at 30 nm. On interpolating to a grain 2 nm larger, the structure relaxes to an EAV (b, e, h), stable up to 120 nm. From 120 nm interpolation is carried out into smaller grains. Eventually the vortex aligns with a hard direction (c, f, i) which is stable down to d_{\min} after which the solution becomes SD again down to 30 nm. Top row (a, b, c) shows the structures for the octahedra; center row (d, e, f) for the minimally truncated octahedra and bottom row (g, h, i) for the regular truncated octahedra. Colour represents the MCA energy normalised by $|K_1|$.