**Figure S1.** Portion of the infinite one-dimensional coordination polymer in Ca(gly)$_2$·H$_2$O (1) with atom labels. Hydrogen atoms have been omitted for clarity. Thermal ellipsoids are drawn at the 50% probability level. For symmetry transformations see footnote to Table 2.

**Figure S2.** Molecular structure of Ca(ala)$_2$·3H$_2$O (2) with atom labels. Thermal ellipsoids are drawn at the 50% probability level. For symmetry transformation see footnote to Table 2.
**Figure S3.** Portion of the infinite one-dimensional coordination polymer in Ca(val)$_2$ · H$_2$O (3) with atom labels. Hydrogen atoms have been omitted for clarity. Thermal ellipsoids are drawn at the 50% probability level. For symmetry transformations see footnote to Table 2.

**Figure S4.** Portion of the infinite one-dimensional coordination polymer in Ca(leu)$_2$ · 3H$_2$O (4) with atom labels. Hydrogen atoms have been omitted for clarity. Thermal ellipsoids are drawn at the 50% probability level. For symmetry transformations see footnote to Table 2.