The preparation of tetraberyllium-μ₄-oxo-hexa[η²-(ortho-fluorobenzoate)] [Be₄O(o-C₆H₄F-COO)₆, 2] and tetraberyllium-μ₄-oxo-μ₂-hydroxo-penta[η²-(ortho-fluorobenzoate)] [Be₄O(o-C₆H₄F-COO)₅(OH), 3] from silver ortho-fluorobenzoate and BeCl₂ in Et₂O/thf solution containing varying amounts of water is reported. The single-crystal structures of 2-tetrahydrofuran and 3-Et₂O·2hexane are discussed in comparison with the structure of the known basic beryllium and zinc carboxylates [M₄O(RCOO)₆, M = Be, Zn]. DFT calculations show that lower symmetry has to be expected for Be-based M₄O-framework-type compounds as compared to the corresponding Zn compounds. Compound 2 is a potential precursor for new compounds with MOF substructure motifs.

Key words: Beryllium, Cluster, Aryl-carboxylate, Crystal Structure