



**Figure S1.** Alpha shapes computed for each of the six hips studied, viewed from an (azimuth°, elevation°) viewpoint of (210, 15) in the same subset of joint pose space: (a) QROM01 left, (b) QROM01 right, (c) QROM02 left, (d) QROM02 right, (e) QROM03 left, (f) QROM03 right, and (g) all six alpha shapes overlaid.