



Supplementary Figure 1: Histograms of signal changes for the in-vivo scans relative to a no-motion scan, both for the up-down (upper) and left-right rotation (lower). The histograms reflect signal changes across slices and diffusion directions (total 480 / condition) with and without prospective motion correction with intra-scan updates (PMC). Motion correction reduces the overall signal loss and all but eliminates major signal losses (signal losses larger than -30%).