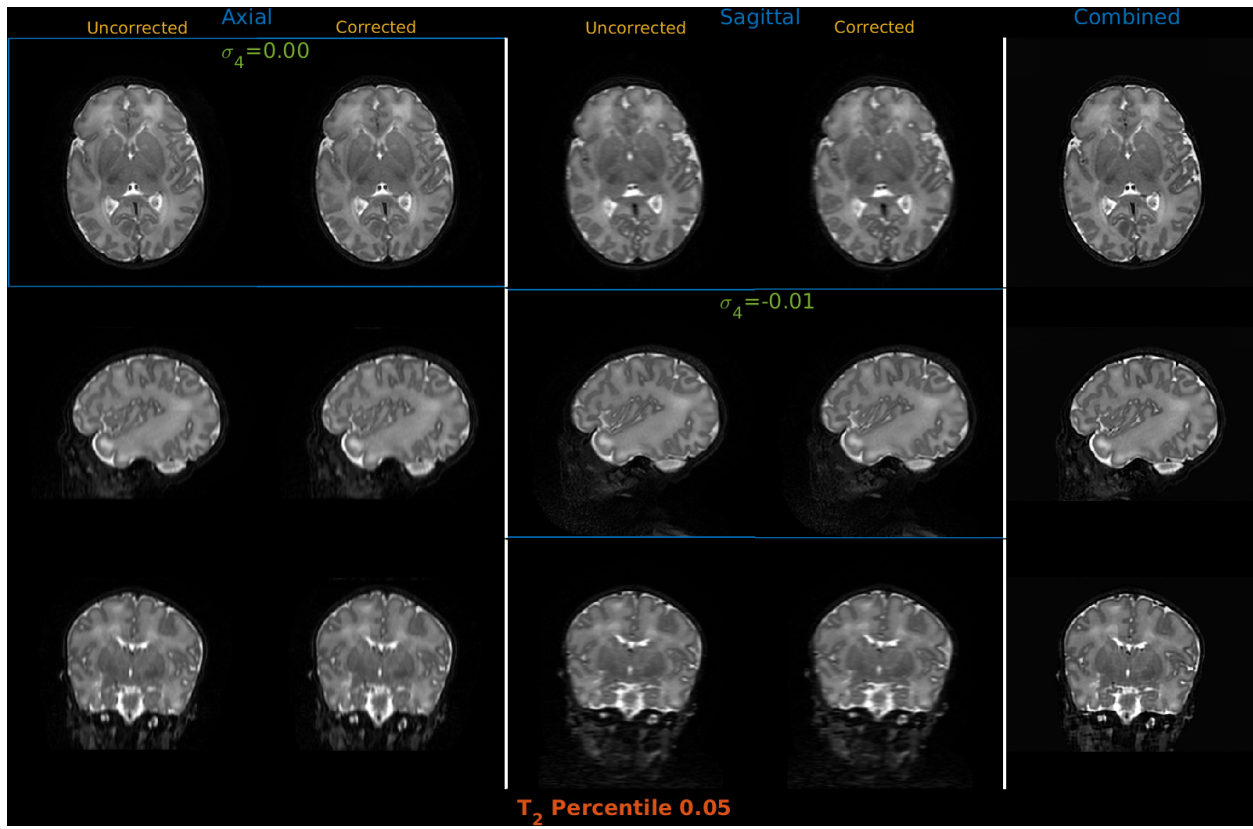
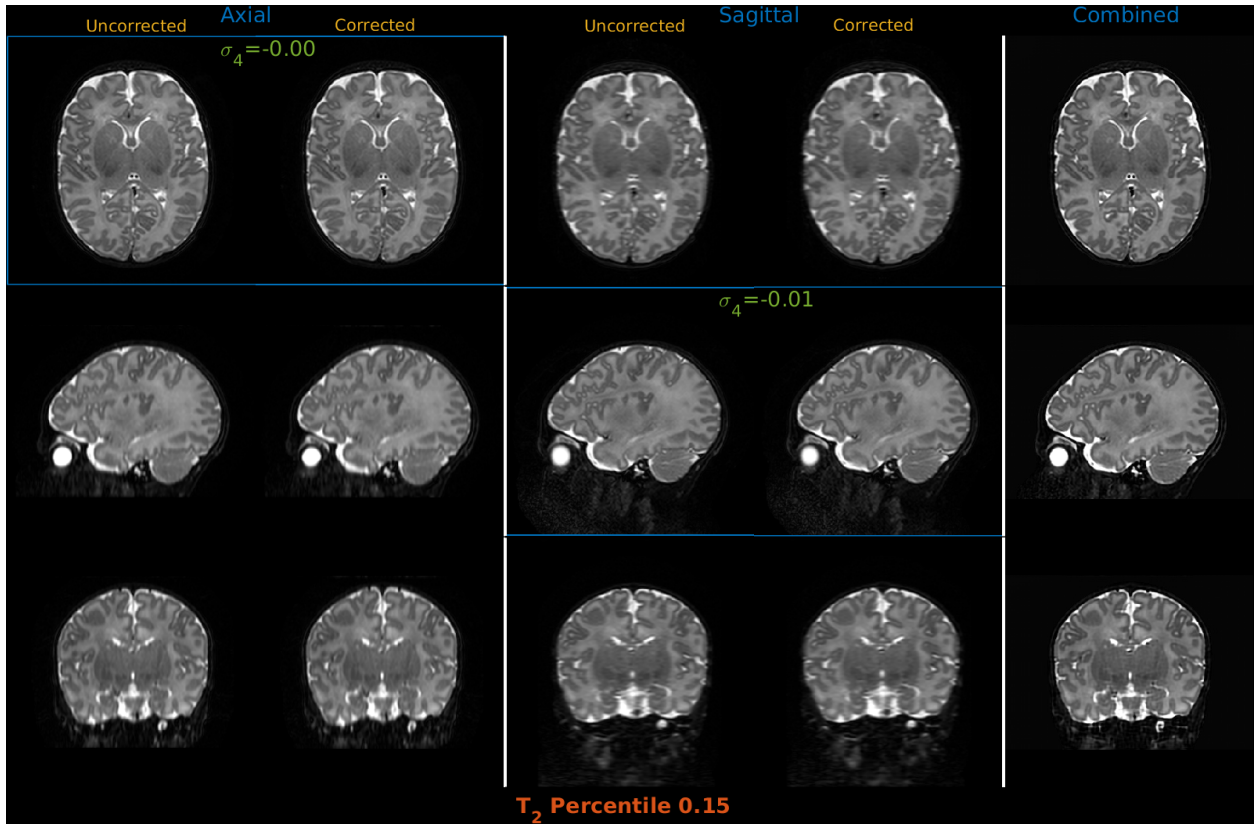


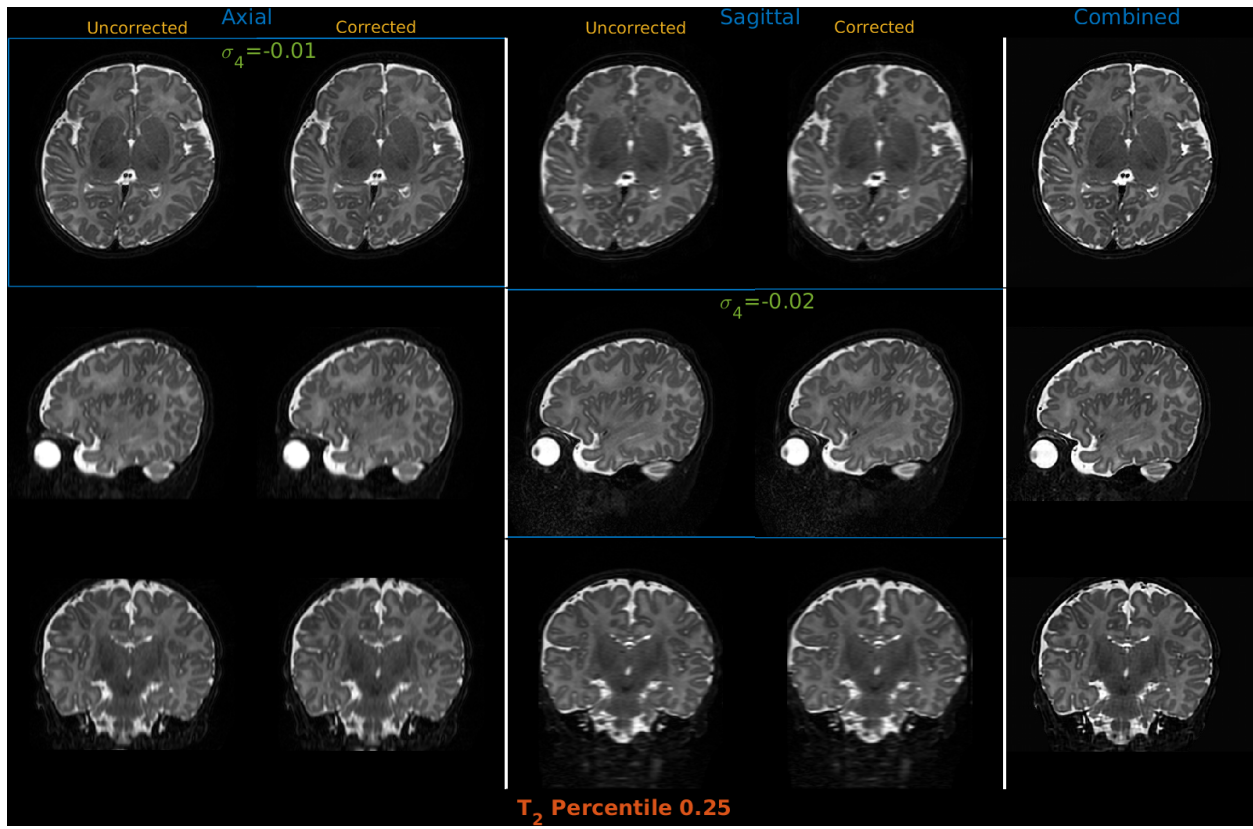
Supporting Figures S1-S10. Examples of correction for T_2 contrast at different levels of the motion correction measure σ_4 showing uncorrected and corrected reconstructions side by side for axial (left) and sagittal (center) slice orientations, along with the result of fusing the two motion corrected reconstructions (right). Examples are provided at regular percentile intervals within the ranked values of σ_4 for the whole cohort. Rank order was determined from the opposite of the sum of σ_4 values for the two acquisitions on each subject, and each acquisition presented is labelled by its individual σ_4 value. Motion artifacts start to be noticeable above percentile 0.55 and within-view motion correction provides almost complete recovery in all cases (particularly note percentiles 0.75, 0.85 and 0.95). Remaining corruption is mainly in the form of intensity biases, which are amenable to further correction by assembling information from different views via the SVR method in (20).



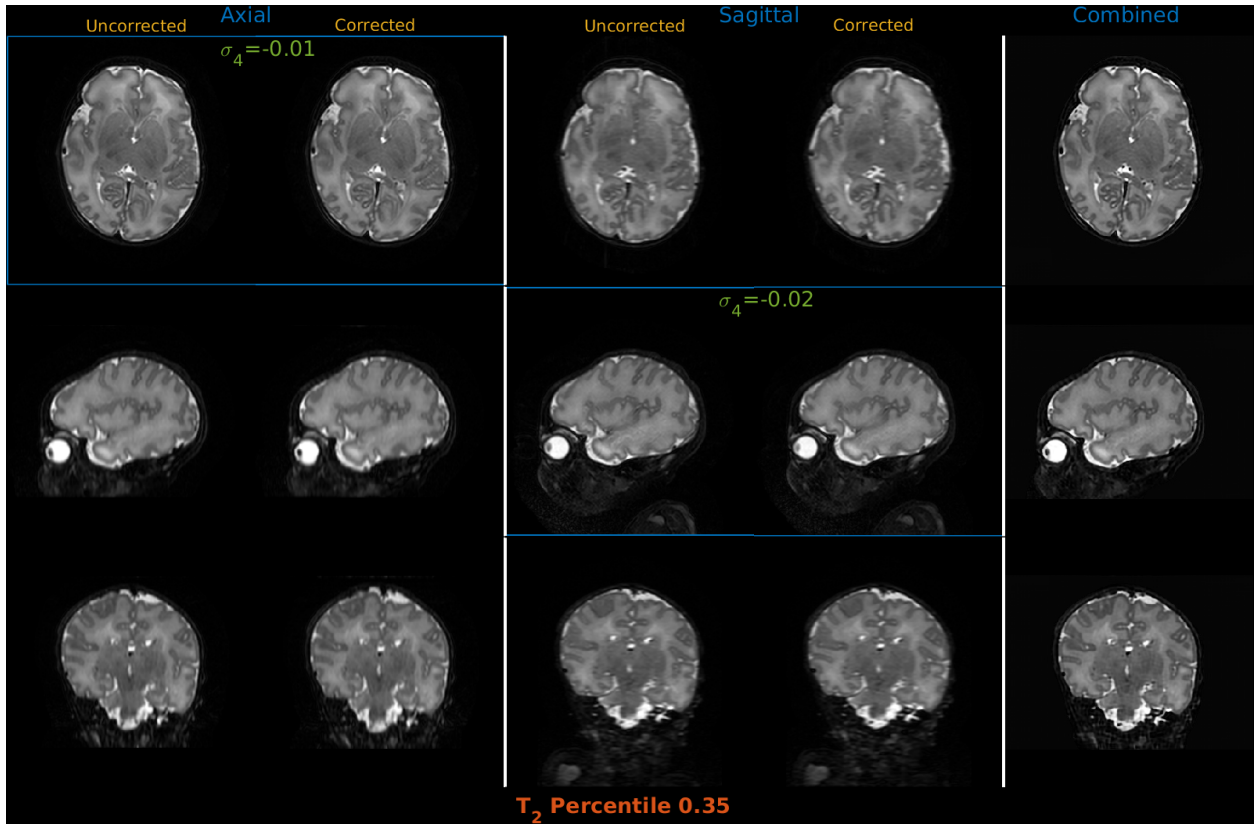
Supporting Figure S1



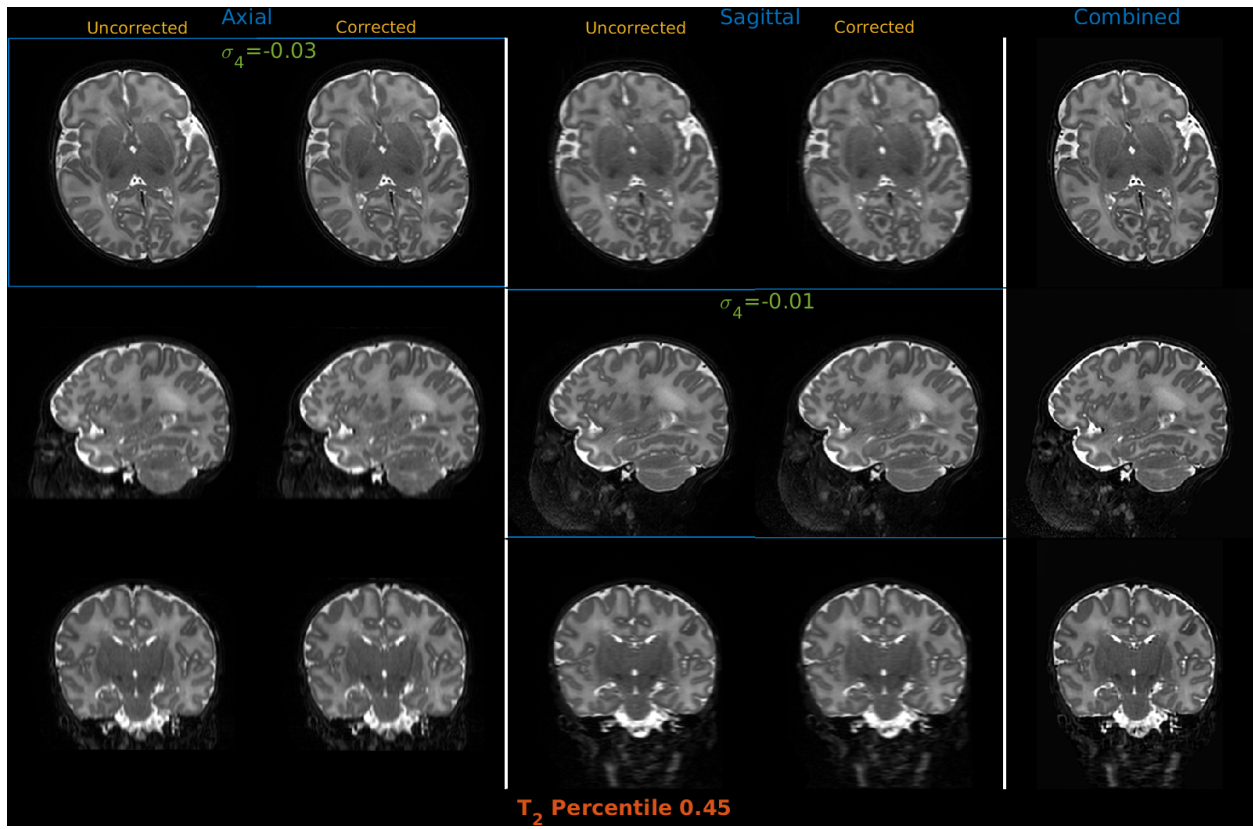
Supporting Figure S2



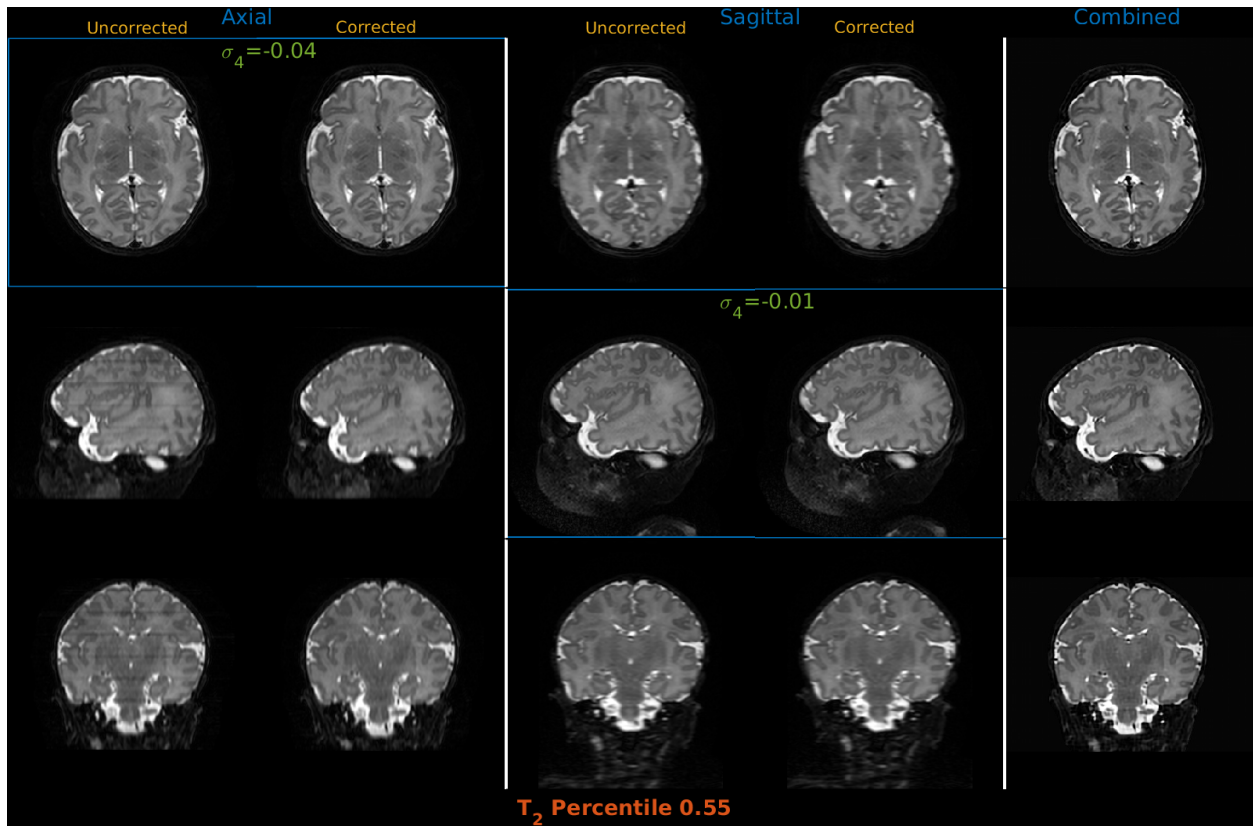
Supporting Figure S3



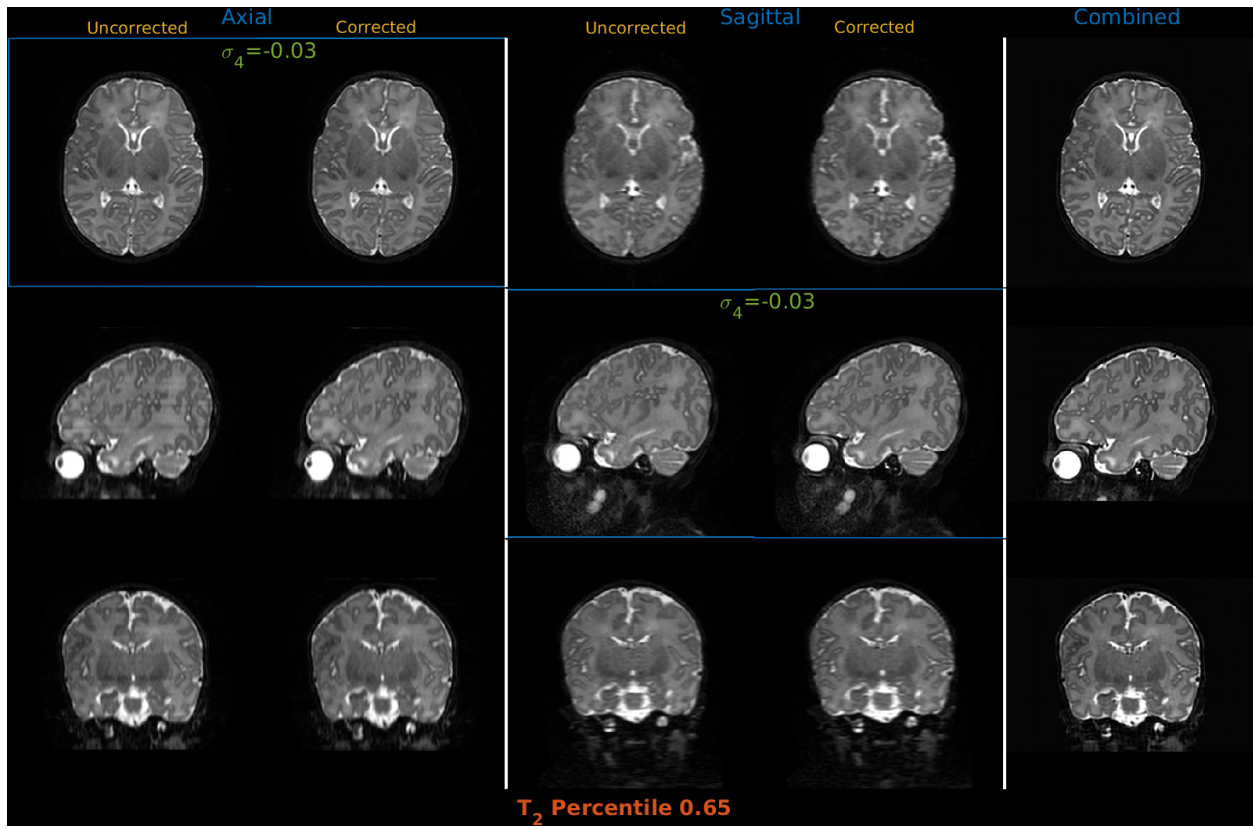
Supporting Figure S4



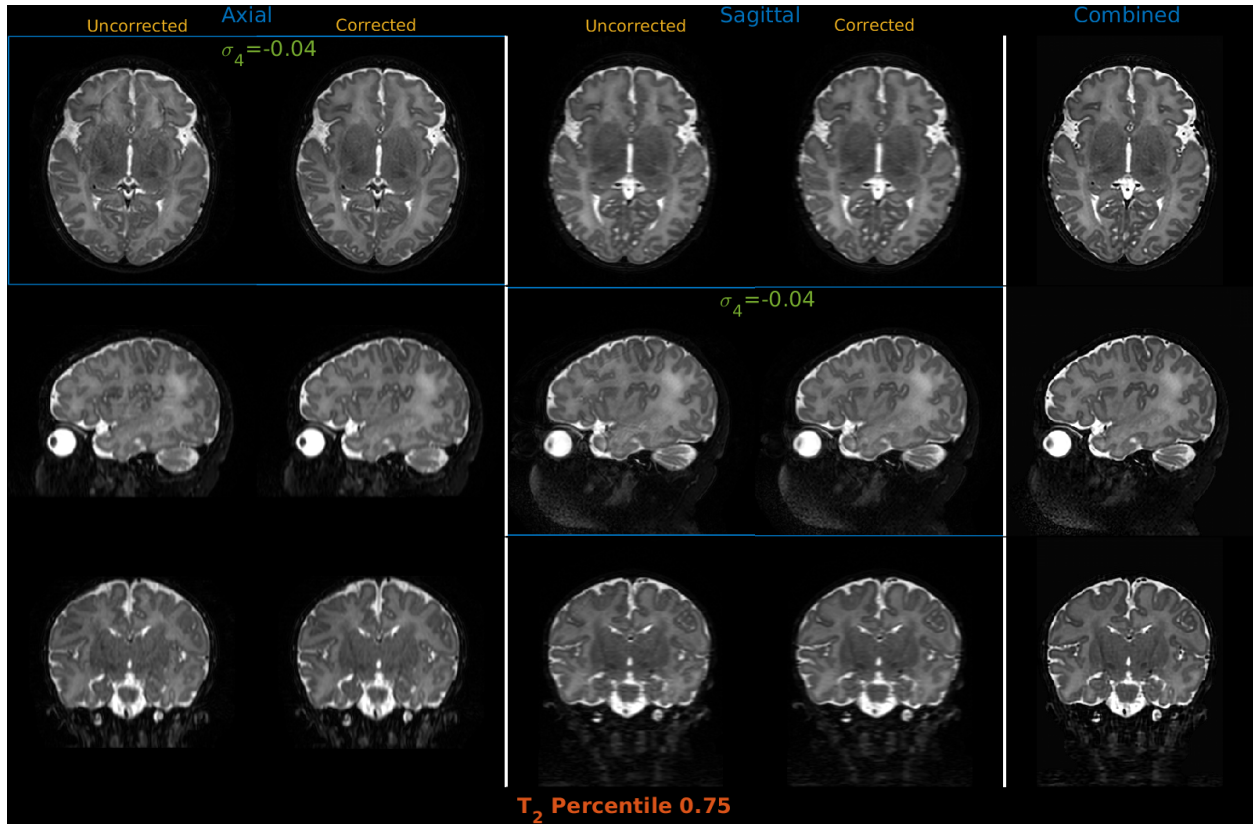
Supporting Figure S5



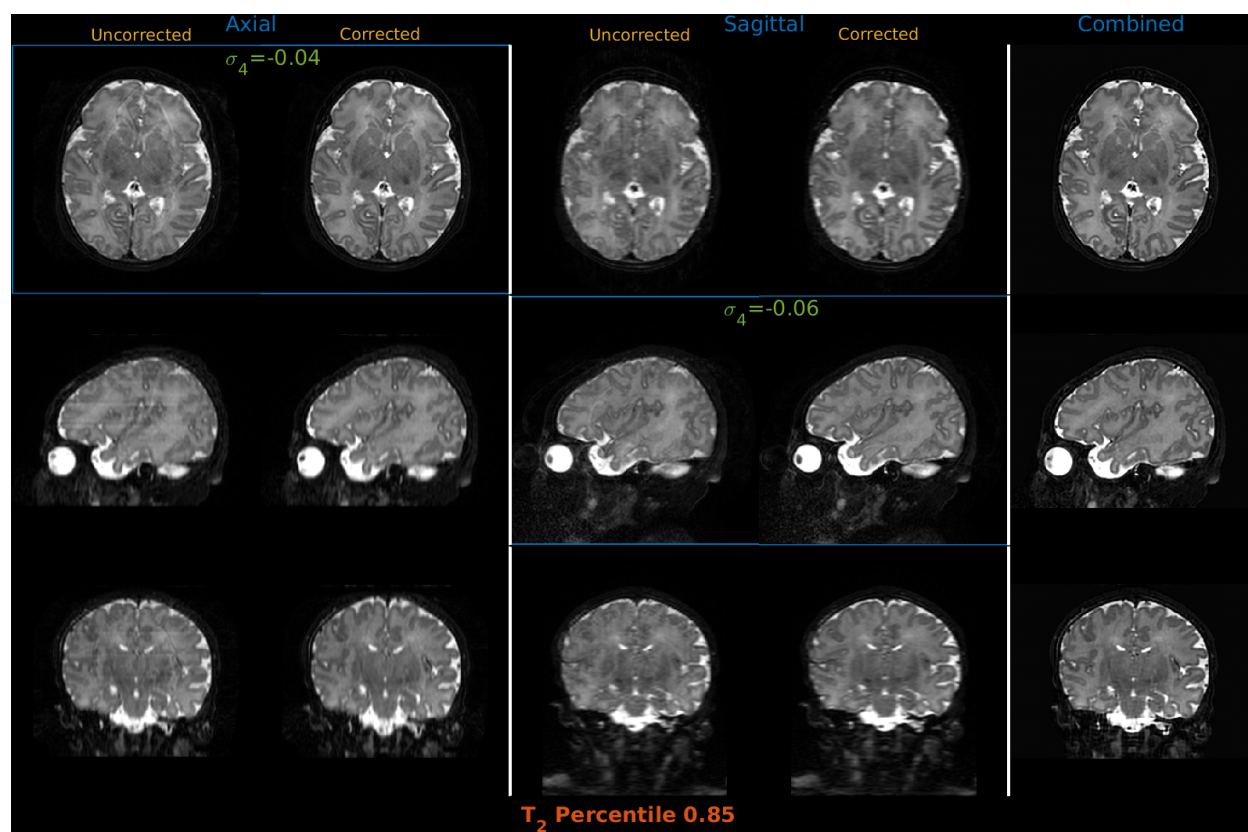
Supporting Figure S6



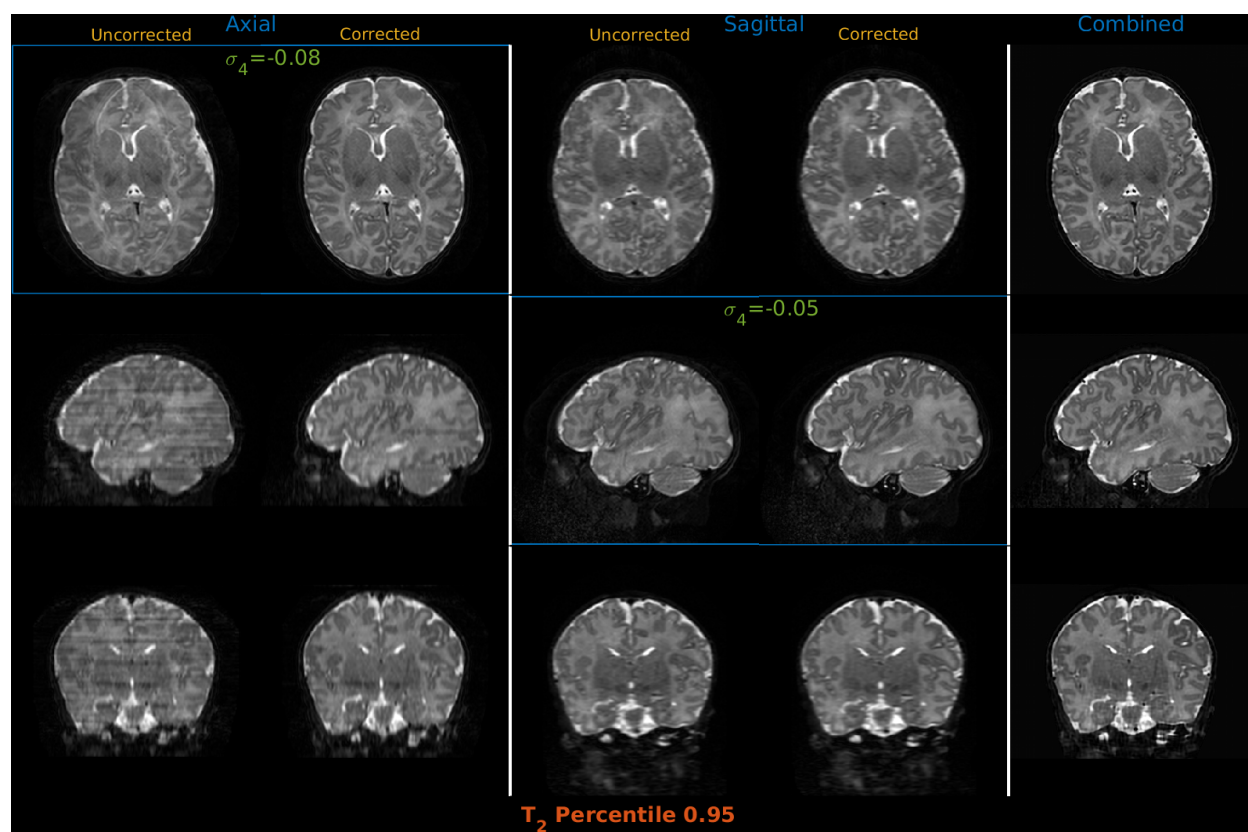
Supporting Figure S7



Supporting Figure S8

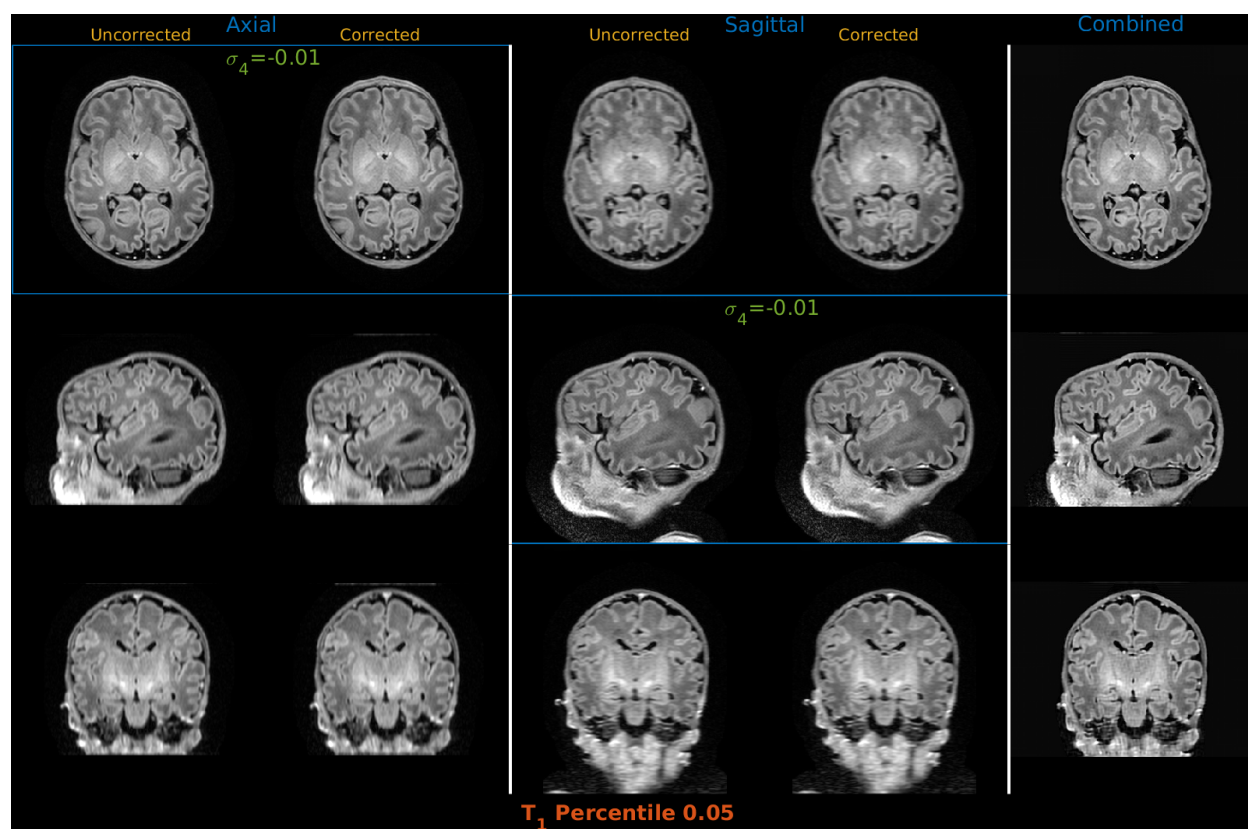


Supporting Figure S9

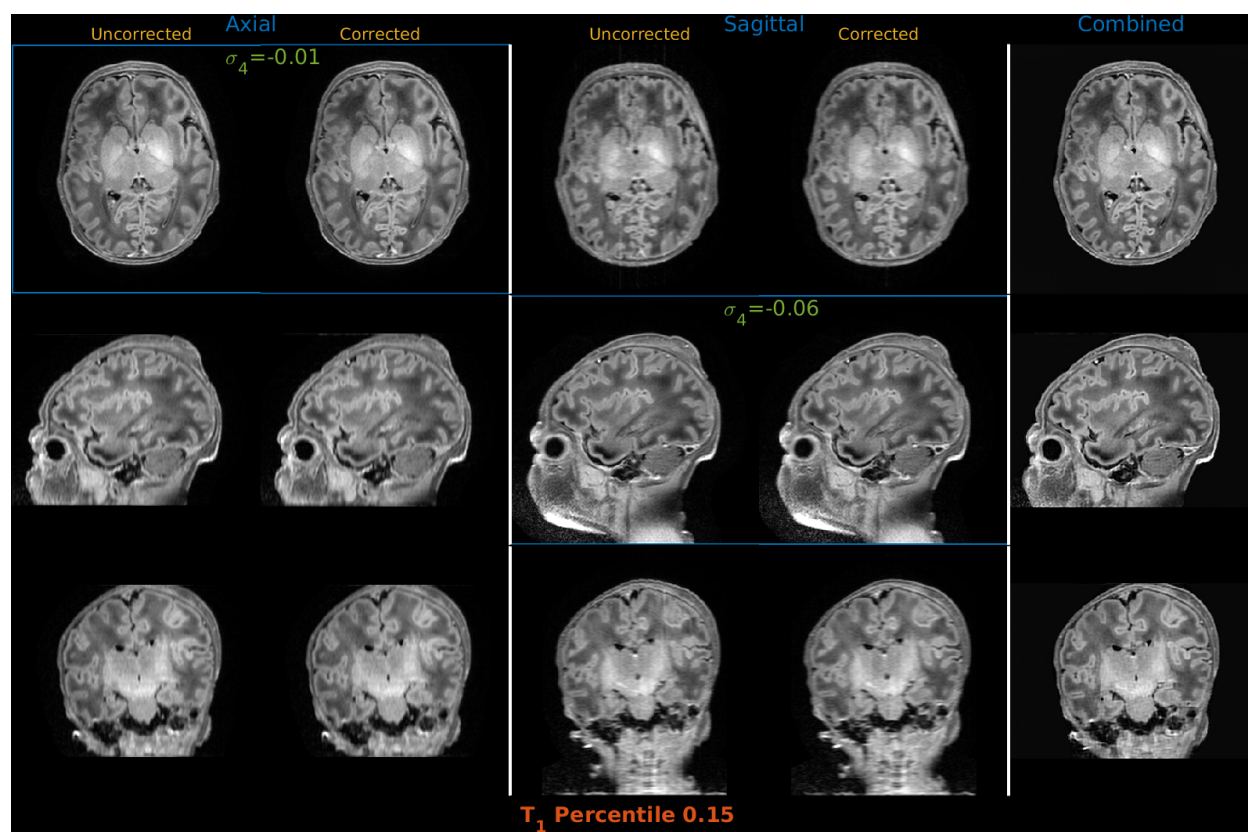


Supporting Figure S10

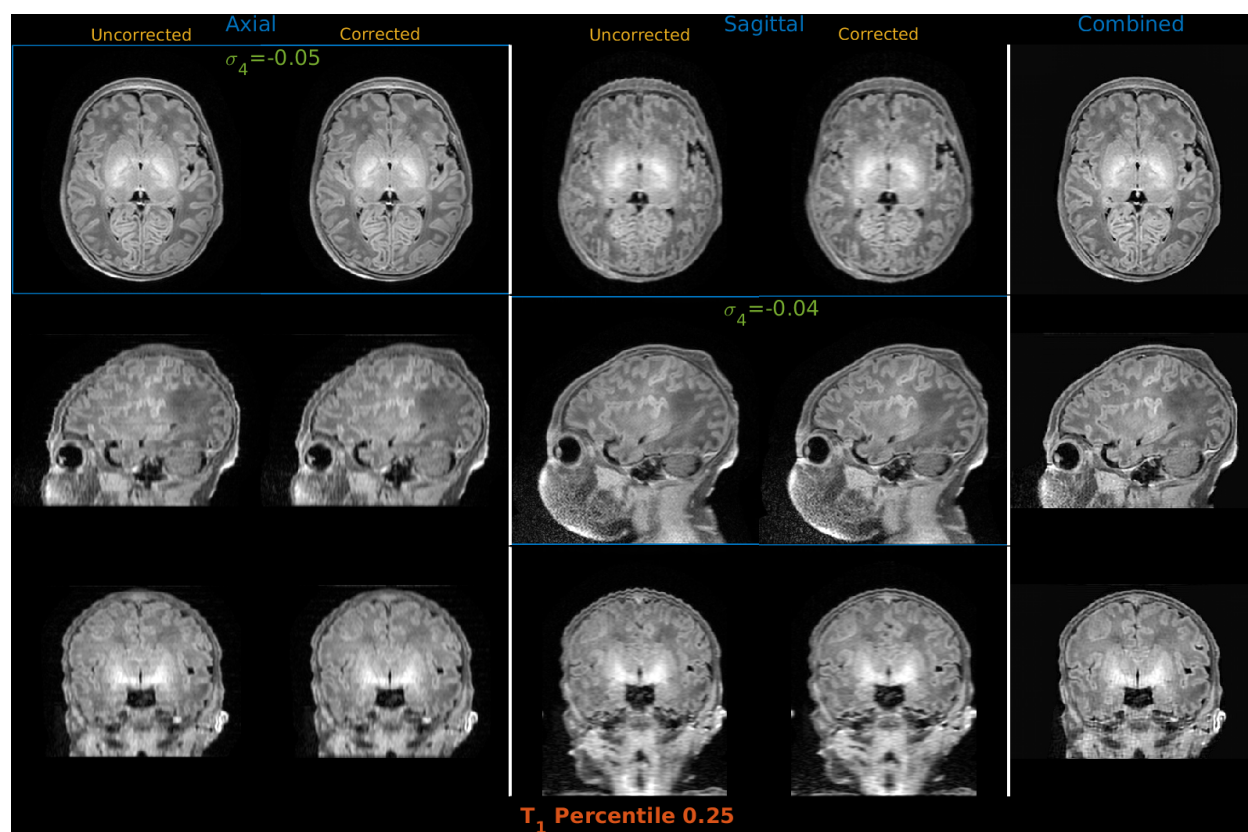
Supporting Figures S11-S20. Examples of correction for T_1 contrast at different levels of the motion correction measure σ_4 showing uncorrected and corrected reconstructions side by side for axial (left) and sagittal (center) slice orientations, along with the result of fusing the two motion corrected reconstructions (right). Examples are provided at regular percentile intervals within the ranked values of σ_4 for the whole cohort. Rank order was determined from the opposite of the sum of σ_4 values for the two acquisitions on each subject, and each acquisition presented is labelled by its individual σ_4 value. Motion artifacts start to be noticeable above percentile 0.15. Within-view motion correction provides significant recovery in all cases (particularly note axially-acquired data at percentile 0.85 and sagittally-acquired data at percentile 0.95). In some cases only partial improvement is achieved by within-view correction (particularly for axially-acquired data at percentile 0.75 and sagittally-acquired data at percentile 0.45). However, remaining corruption and resolution anisotropy are strongly diminished when combining the information from both orientations using the SVR method in (20).



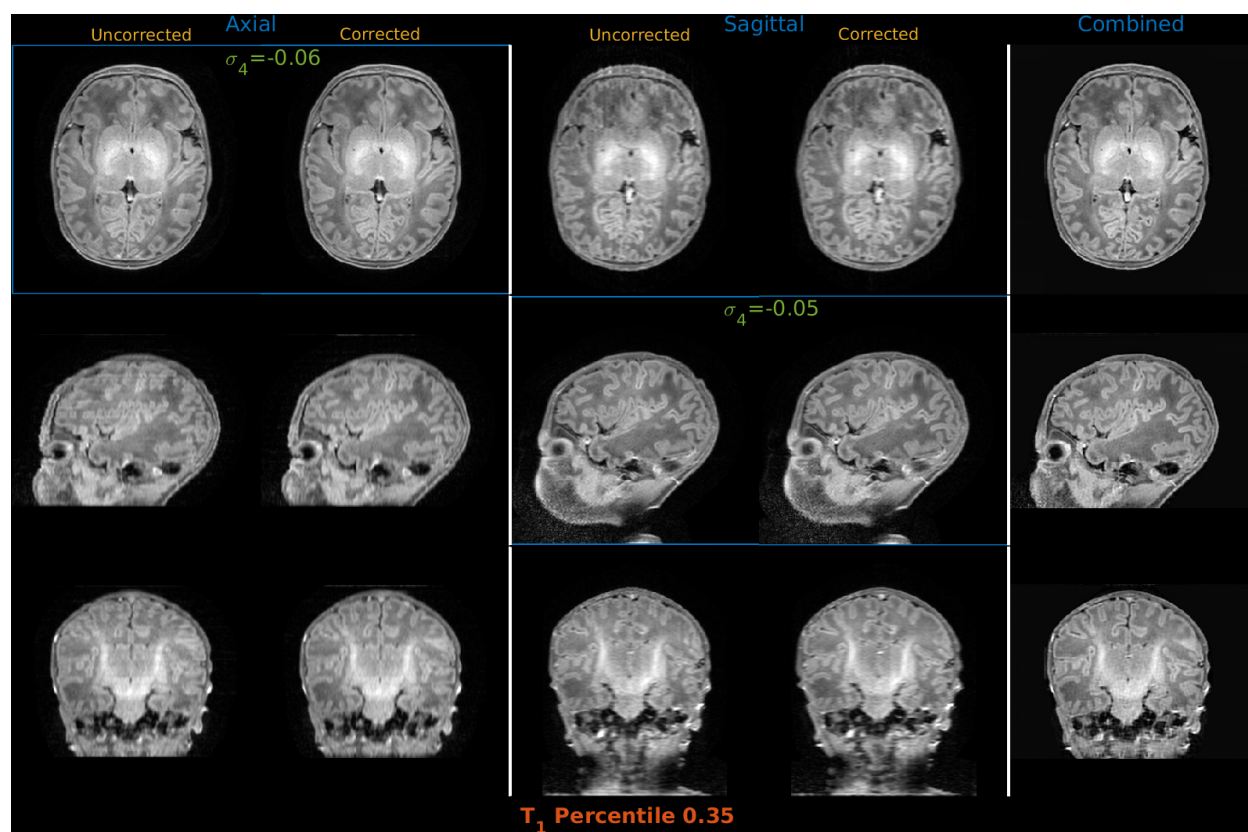
Supporting Figure S11



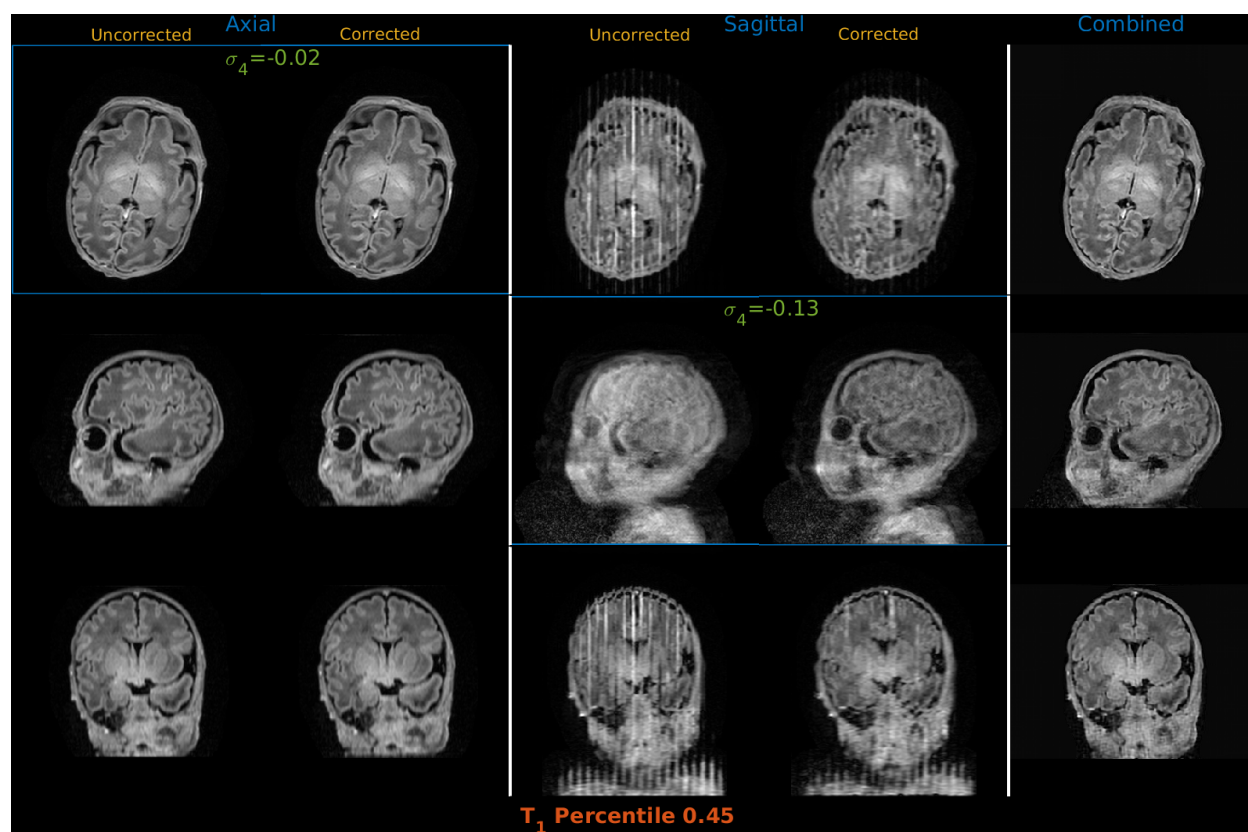
Supporting Figure S12



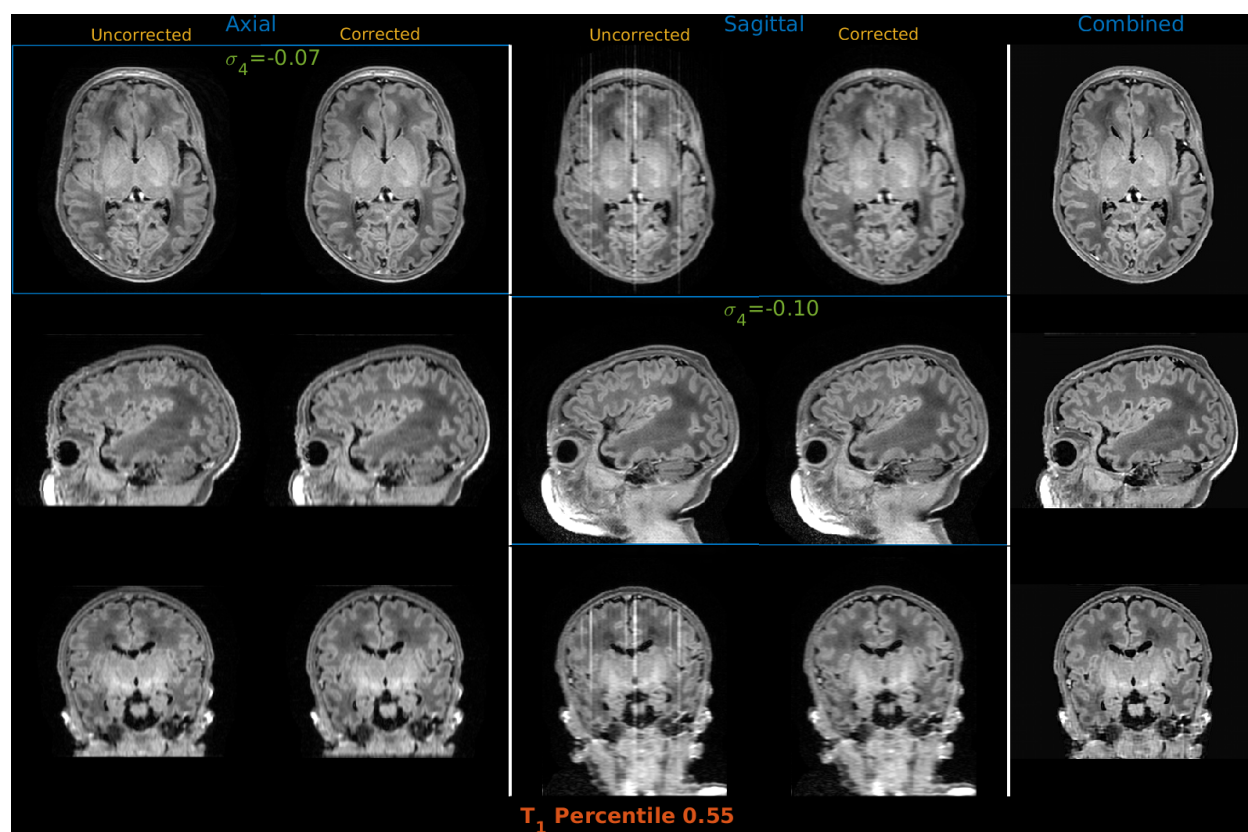
Supporting Figure S13



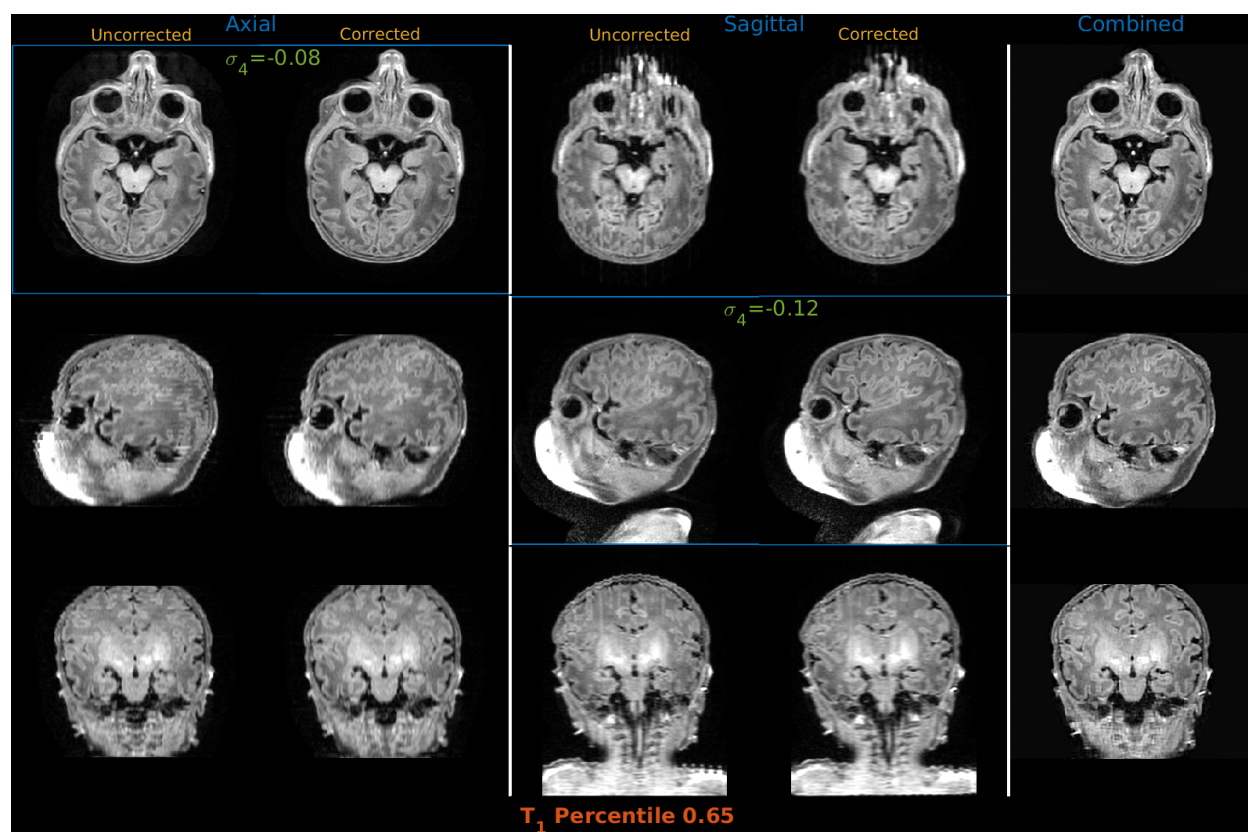
Supporting Figure S14



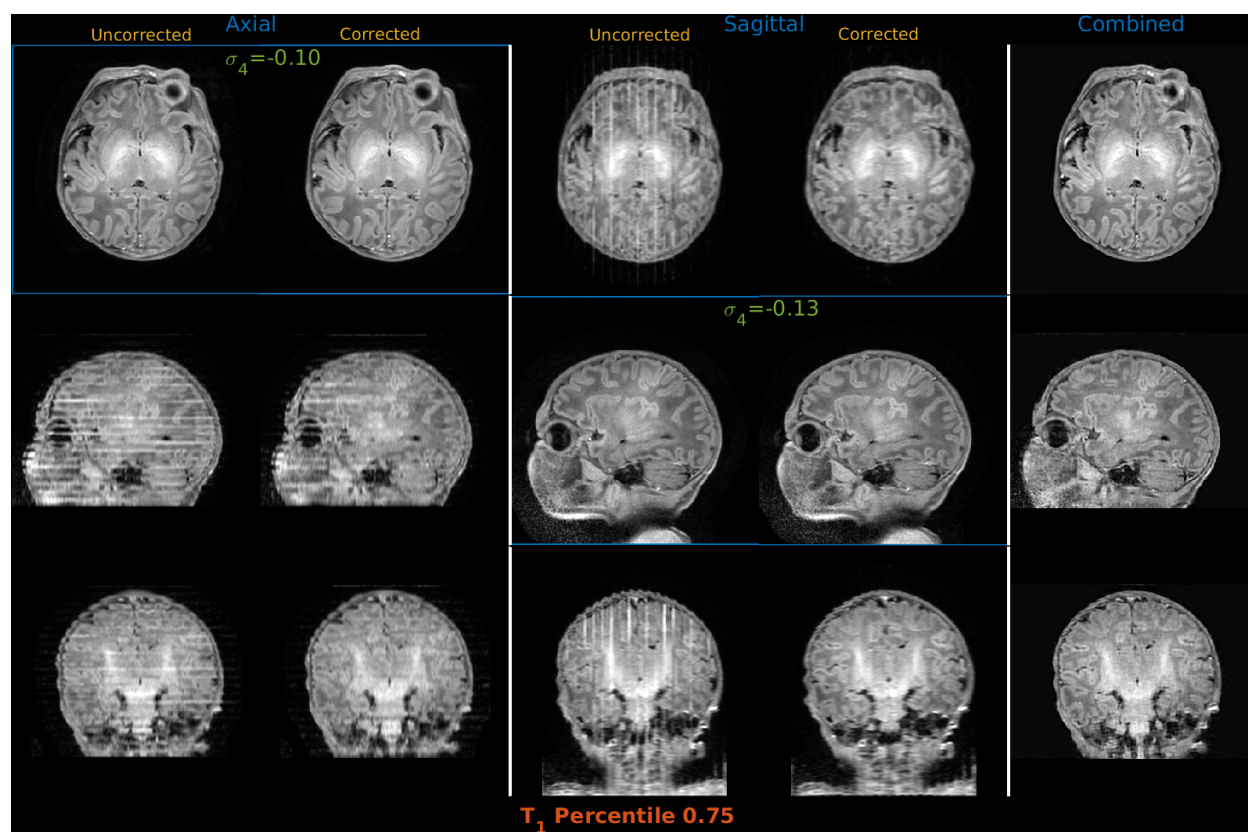
Supporting Figure S15



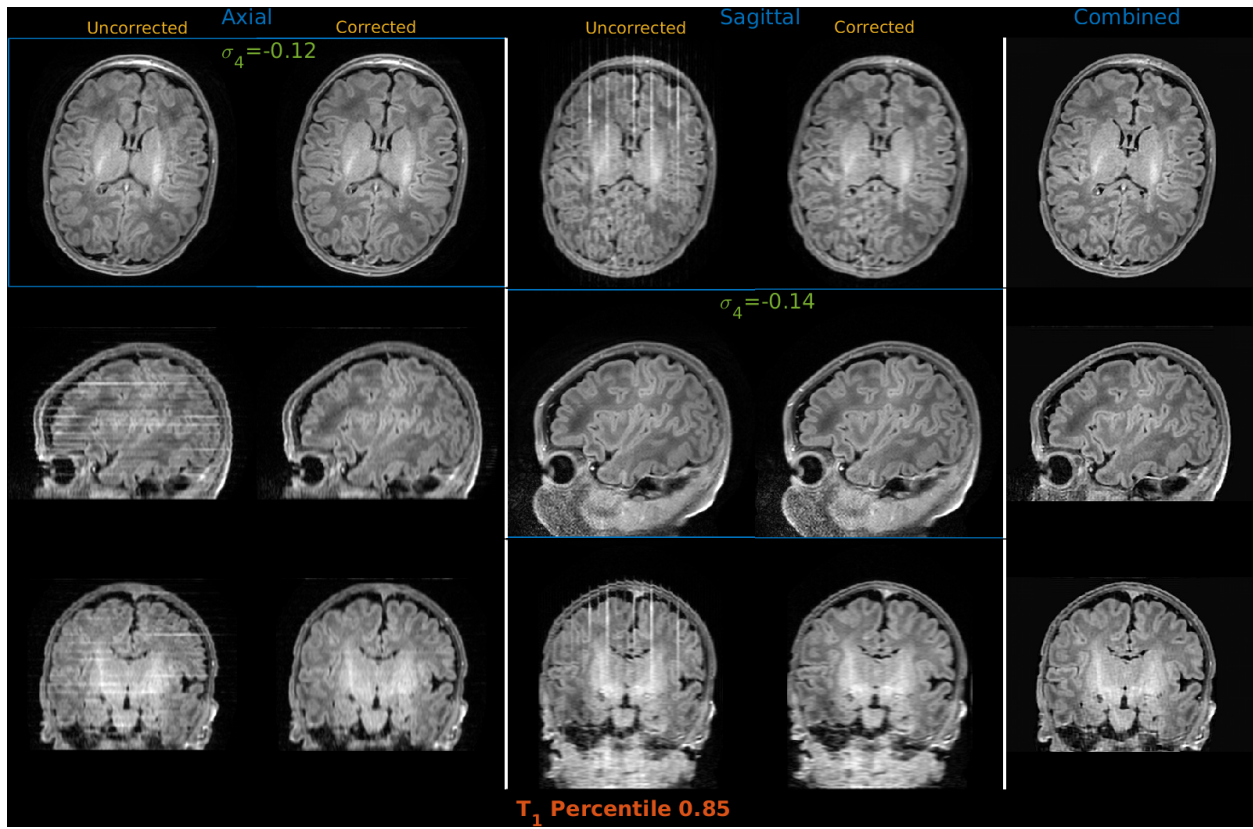
Supporting Figure S16



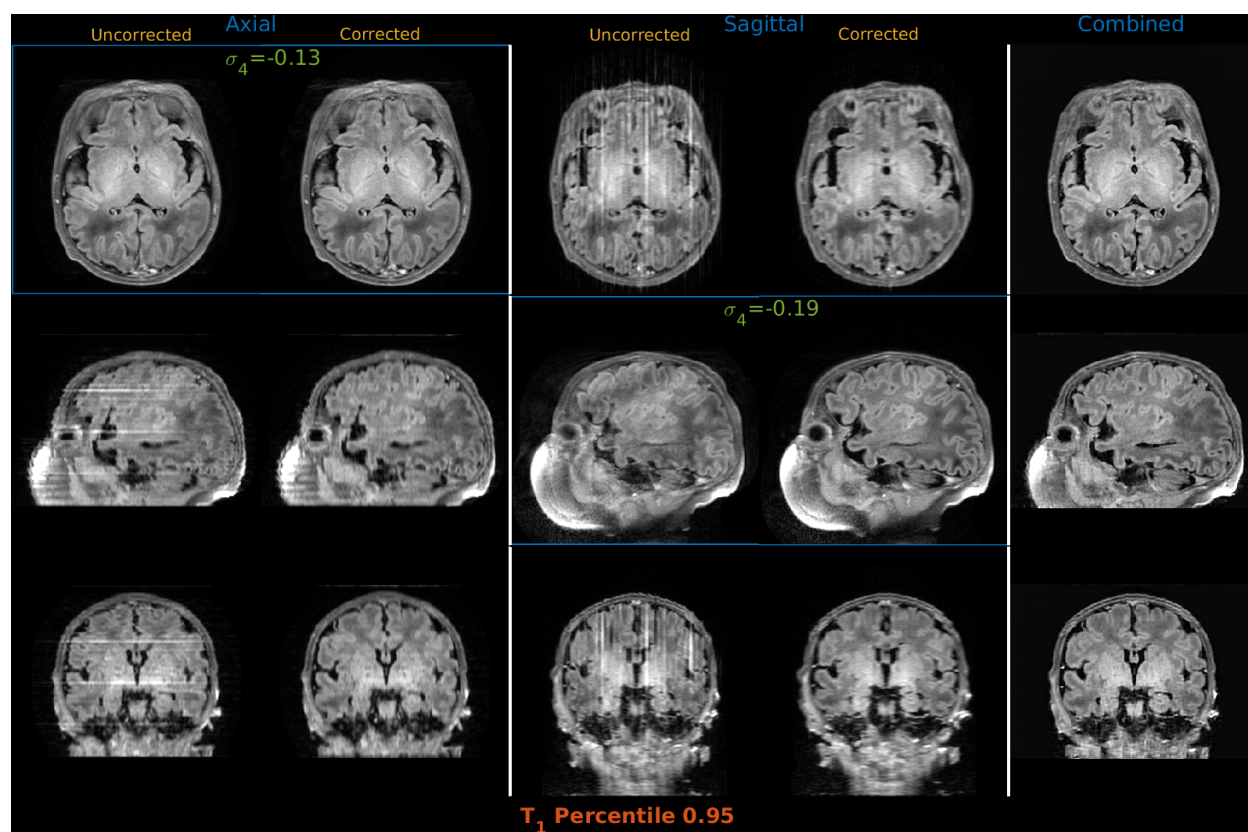
Supporting Figure S17



Supporting Figure S18



Supporting Figure S19



Supporting Figure S20