*Text-e2*. **MANOVAs, ANOVAs and post hoc pair-wise contrasts (Scheffé test) from whole ROIs.**

To provide a more concise view of the results we performed supplementary analysis using the whole ROIs (i.e. whole cingulum, whole mPFC and whole PMC) rather than their sub-regions. In particular, for each ROI and each modality, we averaged the values obtained within all that ROI subregions. Then, we performed 8 different one-way ANOVA (i.e. FA, MD, RD in the cingulum, GMD and MD in mPFC, GMD and MD in the PMC, and FC between mPFC and PMC) among groups with post-hoc comparisons for the significant ANOVAs. The ANOVAs p values were corrected for multiple comparisons using FDR.

Cingulum – FA: F[2,74] = 4.12, p = .02, FDR-p = .028. Control and anoxic had higher FA than TBI (respectively t = 2.57, p = .032 and t = 2.7, p = .023. Control and anoxic did not differ in term of FA (t = -.24, p = .96).

Cingulum – MD: F[2,74] = 6.47, p = .0026, FDR-p = .005. Control and anoxic had lower MD than TBI (respectively t = -3.3, p = .004 and t = -3.3, p = .004. Control and anoxic did not differ in term of MD (t = .12, p = .99).

Cingulum – RD: F[2,74] =11, p < .001, FDR-p < .001. Control and anoxic had lower MD than TBI (respectively t = -4.25, p = <.001 and t = -4.4, p < .001. Control and anoxic did not differ in term of MD (t = .36, p = .93).

mPFC – GMD: The 3 groups did not differ in term of GMD in the mPFC (F[2,74] =.11, p = .89, FDR-p = .89)

PMC – GMD: F[2,74] =5, p = .001, FDR-p = .002. Anoxic had higher GMD than both controls and TBI (respectively t = -2.79, p = .018 and t = 2.53, p < .035. Control and TBI did not differ in term of GMD (t = .37, p = .93).

mPFC –MD: Although the ANOVA was significant (F[2,74] = 3.5, p = .036, FDR-p = .042), the post-hoc revealed only sub-significant differences between the group (control vs anoxic: p = .067, control vs TBI: p = .9, anoxic vs TBI: p = .08).

FC: – FA: F[2,74] = 42, p < .001, FDR-p < .001. Control had higher FC between mPFC and PMC than both anoxic and TBI (respectively t = 8.8, p < .001 and t = 5.7, p < .001. TBI and anoxic did not differ in term of FC (t = --1.27, p = .41).