Supplementary Material: MRSinMRS checklist

1. Hardware	
a. Field strength [T]	7 T
b. Manufacturer	Philips Achieva
c. Model (software version if available)	Achieva (R5.1.7)
d. RF coils: nuclei (transmit/receive), number of channels, type, body part	32 channel head coil
e. Additional hardware	N/A
2. Acquisition	
a. Pulse sequence	MEGA-sLASER
b. Volume of Interest (VOI) locations	Sensorimotor cortex
c. Nominal VOI size [cm^3, mm^3]	3 x 3 x 3 cm^3
d. Repetition Time (TR), Echo Time (TE) [ms]	TR 4640 ms, TE=72ms
e. Total number of Excitations or acquisitions per spectrum In time series for kinetic studies i. Number of Averaged spectra (NA) per time-point ii. Averaging method (e.g. block-wise or moving average) iii. Total number of spectra (acquired / in time-series)	Block-wise averaging. PRE and POST: 64 excitations STIM BLOCK: 108 excitations REST BLOCK: 42 excitations
f. Additional sequence parameters (spectral width in Hz, number of spectral points, frequency offsets) If STEAM:, Mixing Time (TM) If MRSI: 2D or 3D, FOV in all directions, matrix size, acceleration factors, sampling method	SW = 4 kHz NP=?
g. Water Suppression Method	VAPOR
h. Shimming Method, reference peak, and thresholds for “acceptance of shim” chosen	Vendor-provided projection-based shimming to second order
i. Triggering or motion correction method (respiratory, peripheral, cardiac triggering, incl. device used and delays)	N/A
3. Data analysis methods and outputs	

a. Analysis software	LCModel
b. Processing steps deviating from quoted reference or product	Spectral registration to align to mean OFF spectrum. Rejection of transients with MSE (mean squared error) from Cho peak.
c. Output measure (e.g. absolute concentration, institutional units, ratio)	Ratio to total creatine
d. Quantification references and assumptions, fitting model assumptions	No relaxation corrections performed.
4. Data Quality	
a. Reported variables (SNR, Linewidth (with reference peaks))	*SNR and linewidth provided in Table 2*
b. Data exclusion criteria	*SNR < 40 and water linewidth > 15Hz*
c. Quality measures of postprocessing Model fitting (e.g. CRLB, goodness of fit, SD of residual)	*CRLBs of GABA and Glu also provided in Table 2*
d. Sample Spectrum	Provided