Supporting Information.

Effects of sex and western diet on spatial lipidomic profiles of the hippocampus, cortex, and corpus callosum in mice using MALDI MSI.

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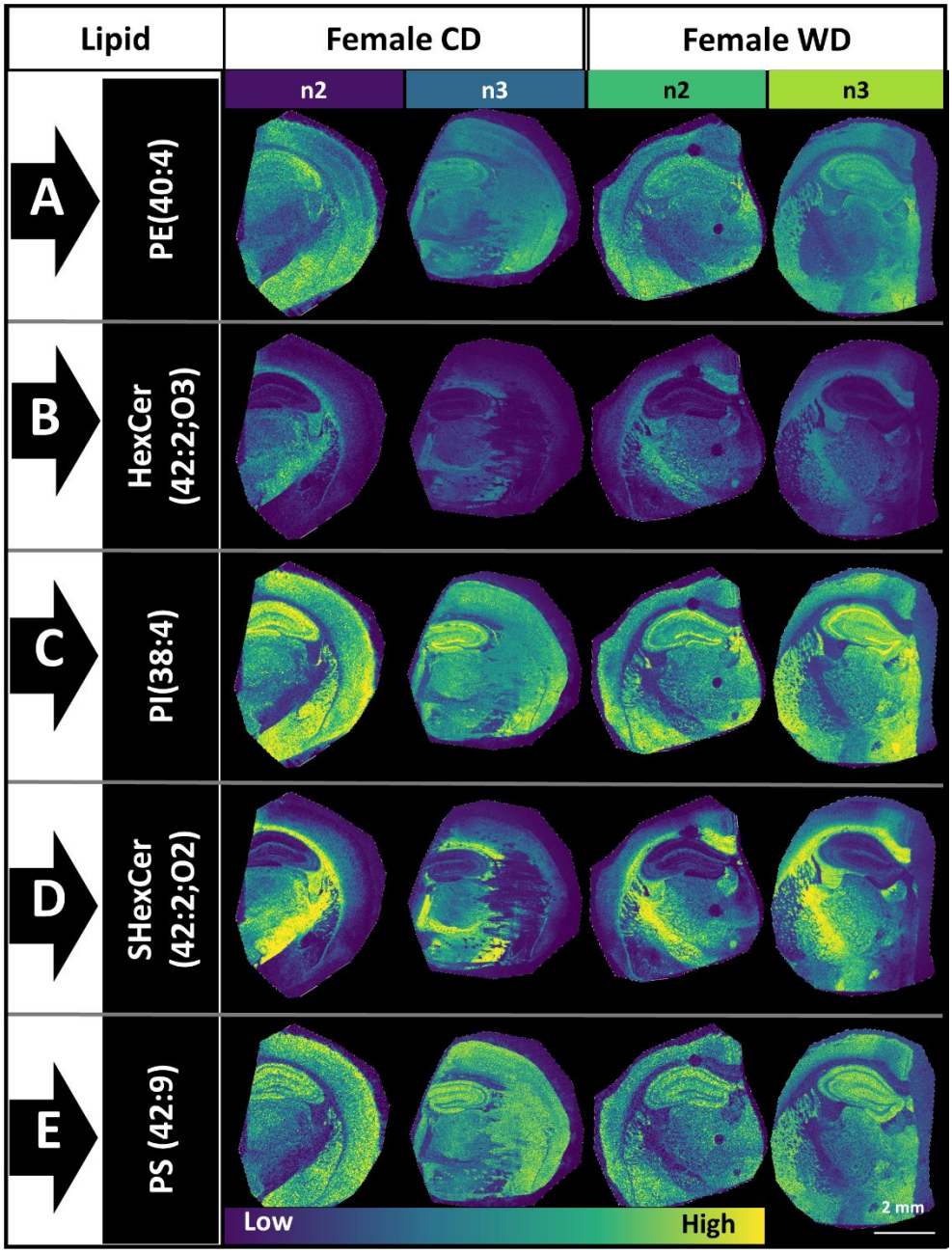

Figure S1: MALDI MS Images for A) PE(40:4) B) HexCer (42:2;O3) C) PI (38:4) D) SHexCer (42:2;O2) and E) PS (42:9) showing female replicates used in study. Note: Areas of tissue damage were excluded from regions.

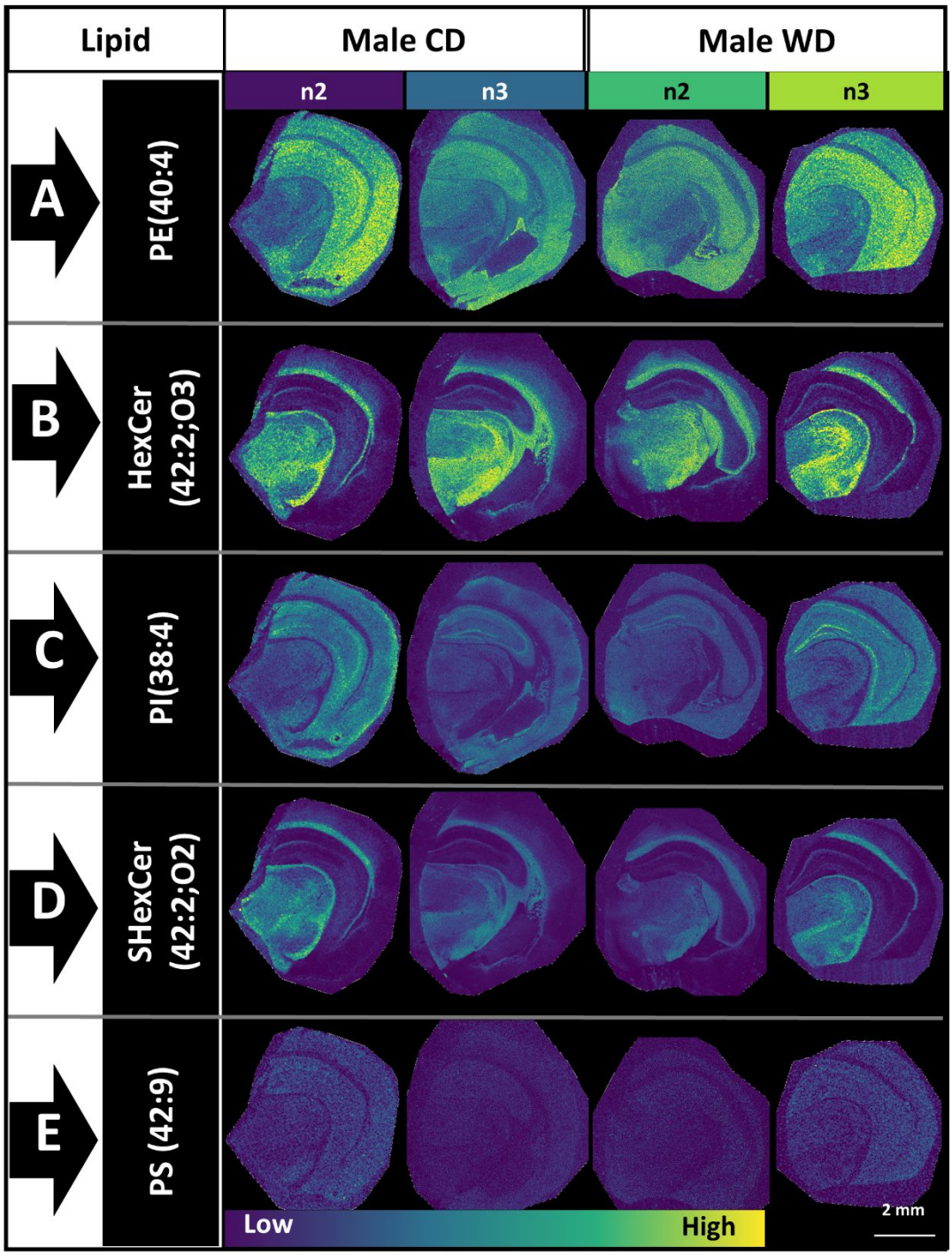

Figure S2: MALDI MS Images for A) PE(40:4) B) HexCer (42:2;O3) C) PI (38:4) D) SHexCer (42:2;O2) and E) PS (42:9) showing male replicates used in study. Note: Areas of tissue damage were excluded from regions.

Table S1 (Excell file): Detected lipid and putative identifications

Table S2 (Excell file): ROC scores for whole brain, cortex, corpus collosum, and hippocampus

Table S3 (Excell file): Statistical significance for top five whole brain ROC scores

Table S4: Method parameters for detection of lipids in negative ion mode using the matrix DAN on a Bruker MALDI timsTOF *flex.*

Transfer cell	
MALDI Plate Offset	30.0 V
Deflection 1 Delta	110.0V
Funnel 1 RF	400.0 Vpp
isCID Enerfy	0.0 eV
Funnel 2 RF	400.0 Vpp
Multipole RF	400.0 Vpp
Collision Cell	
Collision Energy	5 eV
Collision RF	500.0 Vpp
Quadrupole	
Ion Energy	5.0 eV
Low Mass	500.0 m/z
Focus Pre TOF	
Transfer Time	80.0 µs
Pre-Pulse Storage	8.0 µs