Glutamate metabolism Old vs Young N-acetylglutamine 4-hydroxyglutamate pyroglutamine\* Condition Old Young glutamine · p.adj 0.01 glutamate · 0.05 0.10 glutamate, gamma-methyl ester-0.50 0.90 gamma-aminobutyrate (GABA) N-methylglutamate N-acetyl-aspartyl-glutamate (NAAG) Log2FC (TvN)