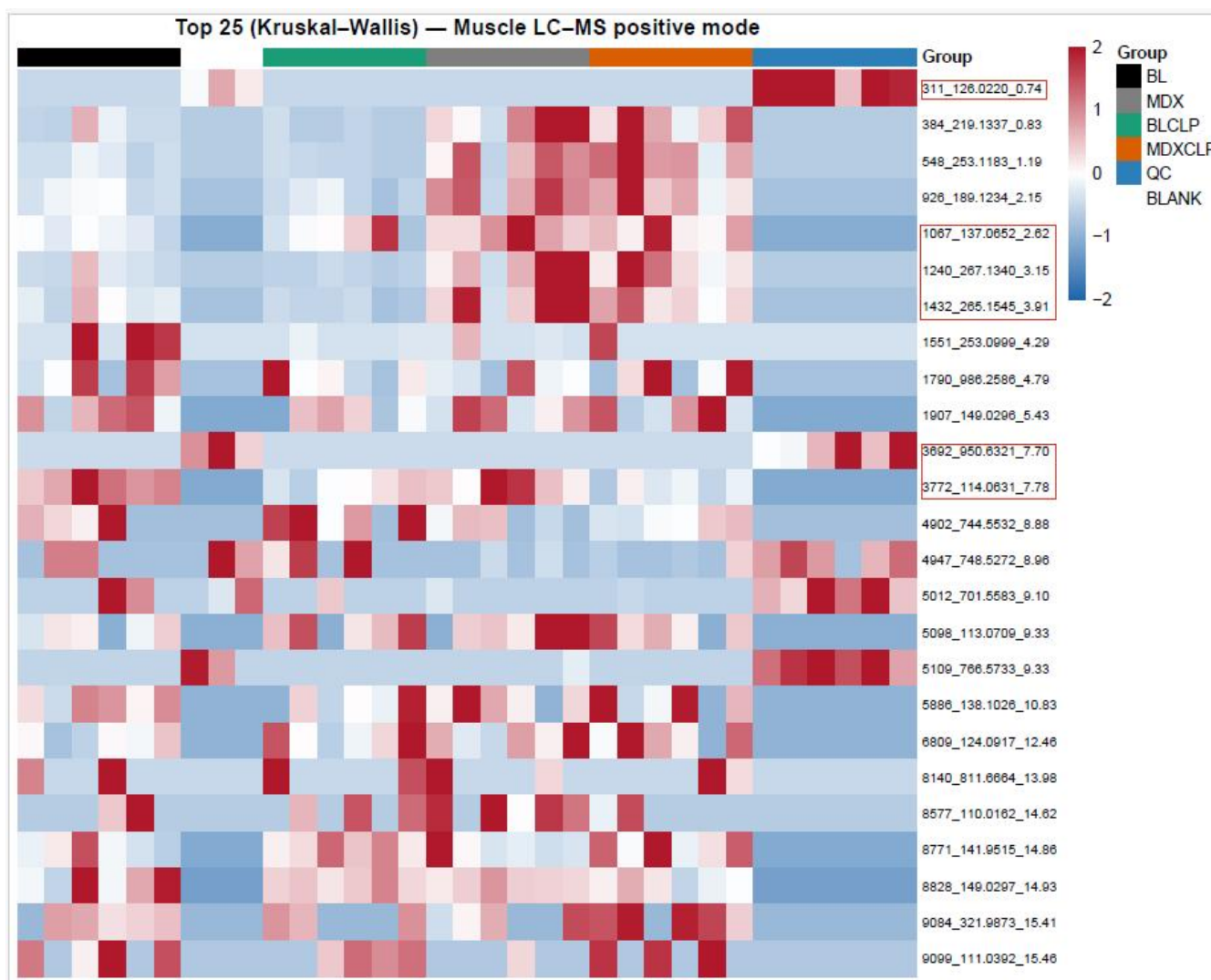




Supplementary Fig. S3. Heatmap showing the 25 most significant metabolic features identified by Kruskal-Wallis non-parametric analysis in muscle LC-MS positive ion mode. Intensities were $\log_2$ -transformed and autoscaled (z -score). Each column represents an individual sample, grouped as BL (black), MDX (gray), BLCLP (green), MDXCLP (red), QC (blue), and blanks (white), while rows correspond to individual features (m/z _RT). Hierarchical clustering of features reveals distinct group-associated metabolic patterns, with consistent separation between control and MDX samples and additional modulation associated with the CLP condition. QC samples cluster tightly, indicating analytical stability.