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Figure S1 (A). Tandem mass spectra of representative methylated Myristoleic acid (C14:1).



Figure S1 (B). Tandem mass spectra of representative methylated Palmitic acid (C16:0).



Figure S1 (C). Tandem mass spectra of representative methylated Palmitoleic acid (C16:1).



Figure S1 (D). Tandem mass spectra of representative methylated Stearic acid (C18:0).



Figure S1 (E). Tandem mass spectra of representative methylated Linoleic acid (C18:2).



**Figure S1 (F).** Tandem mass spectra of representative methylated α-Linolenic acid (C18:3).



Figure S1 (G). Tandem mass spectra of representative methylated  $\alpha$ -Parinaric acid (C18:4).



Figure S1 (H). Tandem mass spectra of representative methylated Eicosenoic Acid (C20:1).



Figure S1 (I). Tandem mass spectra of representative methylated Eicosadienoic Acid (C20:2).



Figure S1 (J). Tandem mass spectra of representative methylated Eicosatrienoic acid (C20:3).



Figure S1 (K). Tandem mass spectra of representative methylated Arachidonic acid (C20:4).





Figure S1 (L). Tandem mass spectra of representative methylated Eicosapentaenoic acid (C20:5).





Figure S1 (M). Tandem mass spectra of representative methylated Docosadienoic acid (C22:2).



Figure S1 (N). Tandem mass spectra of representative methylated Docosatrienoic Acid (C22:3).





Figure S1 (O). Tandem mass spectra of representative methylated Adrenic acid(C22:4).



Figure S1 (P). Tandem mass spectra of representative methylated Docosapentaenoic acid (C22:5).



Figure S1 (Q). Tandem mass spectra of representative methylated Docosahexaenoic acid (C22:6).

