

**S1 Fig:** Comparison of the peak quality for a few metabolites extracted from strain PCC **7002 using the three extraction methods.** The extracted ion chromatogram (XIC) of the metabolites 3-PGA, RuBP, and UDPG, which are significant in the <sup>13</sup>C-MFA studies of photosynthetic organisms, obtained using the three methods are shown here to compare the extraction efficiency. The effect of addition of NH<sub>4</sub>OH is prominent with metabolites such as RuBP and is significant for metabolites such as 3-PGA. Few other metabolites such as UDPG did not have significant change with the addition of NH<sub>4</sub>OH. The metabolites presented are 3 Phosphoglyceric acid (3 PGA), Uridine diphosphate glucose (UDPG), and Ribulose 1,5-bisphosphate (RuBP).