## **Supplementary Information**

Supplementary Table 1 – Plasmid information and primer sequences

Supplementary Table 2 – Fragmentation and retention time information for the identification and quantification of acyl-CoAs and 4-HAs by LC-MS

Supplementary Table 3 – Reagent and internal standard information

Supplementary Figure 1 – HADDOCK report of octanoyl-CoA docking to ACAD11 A\* structure