

Description of Additional Supplementary Files

File Name: Supplementary Movie 1

Description: Time course of the *C. glutamicum* model membrane simulation (0.5 μ s trajectory) with added RES. Colour code: dark grey POPG, light green DPPI, navy blue PODG, cyan (PO)MGDG, purple RES.

File Name: Supplementary Movie 2

Description: Time course of the *C. glutamicum* model membrane simulation (0.5 μ s trajectory) without RES. Colour code: dark grey POPG, light green DPPI, navy blue PODG, cyan (PO)MGDG.

File Name: Supplementary Movie 3

Description: Time course of the *C. glutamicum* model membrane simulation (0.5 μ s trajectory) with added RES and LA. Colour code: dark grey POPG, light green DPPI, navy blue PODG, cyan (PO)MGDG, purple RES, orange LA.

File Name: Supplementary Movie 4

Description: Time course of the *C. glutamicum* model membrane simulation (0.5 μ s trajectory) with added RES and LA. Colour code: dark grey POPG, light green DPPI, navy blue PODG, cyan (PO)MGDG. For more clarity, both RES and LA are not shown.