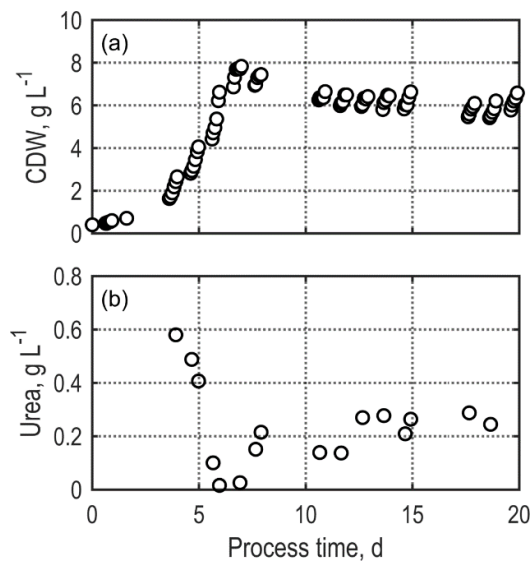
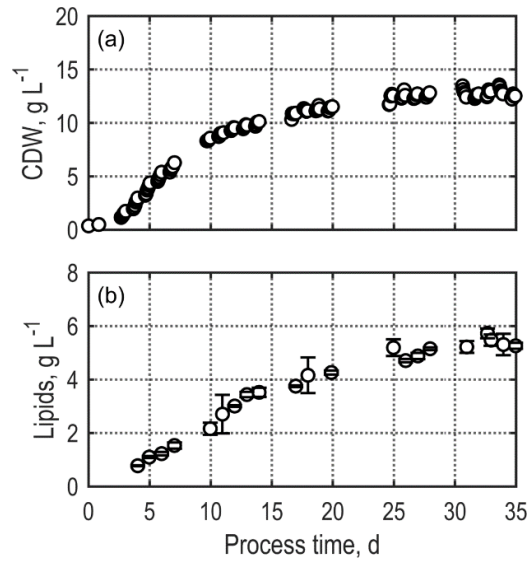


**Figure S1.** Cell dry weight (CDW) concentrations in 4 nutrient-replete batch processes with *M. salina* in thin-layer cascade photobioreactors ( $A = 8 \text{ m}^2$ ) at a physically simulated Mediterranean summer climate. Growth data were used to estimate the light dependent growth kinetics.



**Figure S2.** (a) Cell dry weight (CDW) and (b) urea concentration in a continuous process ( $D = 0.3 \text{ d}^{-1}$ ) with *M. salina* in a thin-layer cascade photobioreactor ( $A = 8 \text{ m}^2$ ) at a physically simulated Mediterranean summer climate. Growth and urea data were used to estimate biomass formation under nitrogen limited conditions as well as nightly biomass decay.



**Figure S3.** (a) Cell dry weight (CDW) and (b) lipid concentration in a nitrogen limited batch process with an initial urea concentration of  $0.6 \text{ g L}^{-1}$  with *M. salina* in a thin-layer cascade photobioreactor at a physically simulated Mediterranean summer climate. Growth and lipid formation data were used to estimate lipid-free biomass growth, lipid formation and maximum lipid content under nitrogen starved conditions.