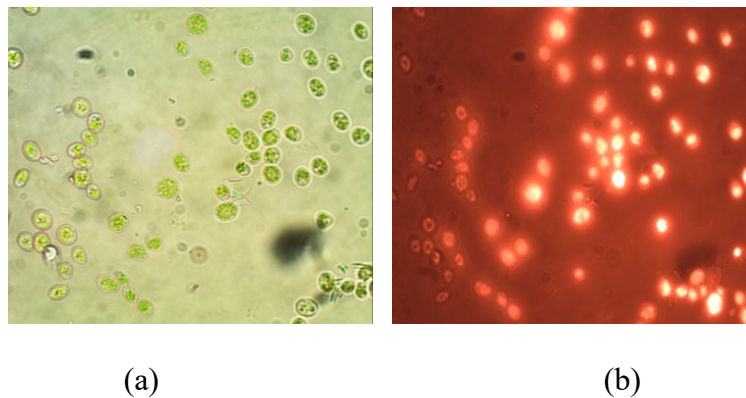




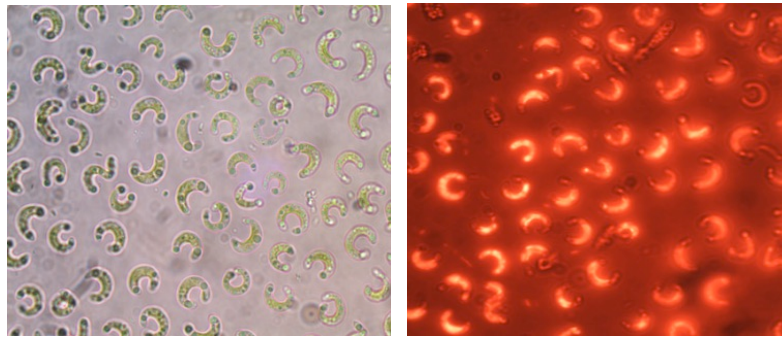
Appendix 1: A difference in physiological appearance of *Chlorella emersonii* after 15 days of growth indicated a loss of chlorophyll in mixotrophic and heterotrophic mode.



Appendix 2: A difference in physiological appearance of *Pseudokirchneriella subcapitata* after 15 days of growth indicates loss of chlorophyll in mixotrophic and heterotrophic mode.



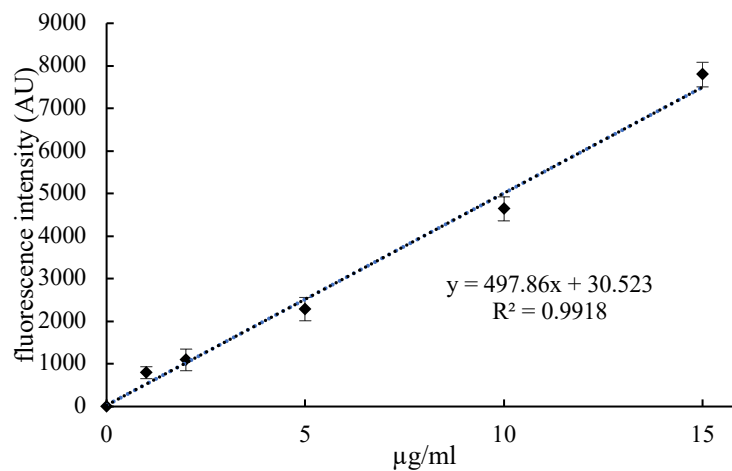
Appendix 3: Microscopic observation of *Chlorella emersonii* under (a) 100X magnification. Microalgal cells containing neutral lipids present in *Chlorella emersonii* after incubation with 20% (v/v) of DMSO with 10 μ g/ml of Nile Red dye under 100X magnification (b). Cells without any fluorescence have either no neutral lipid or too few lipids to be observed visually.



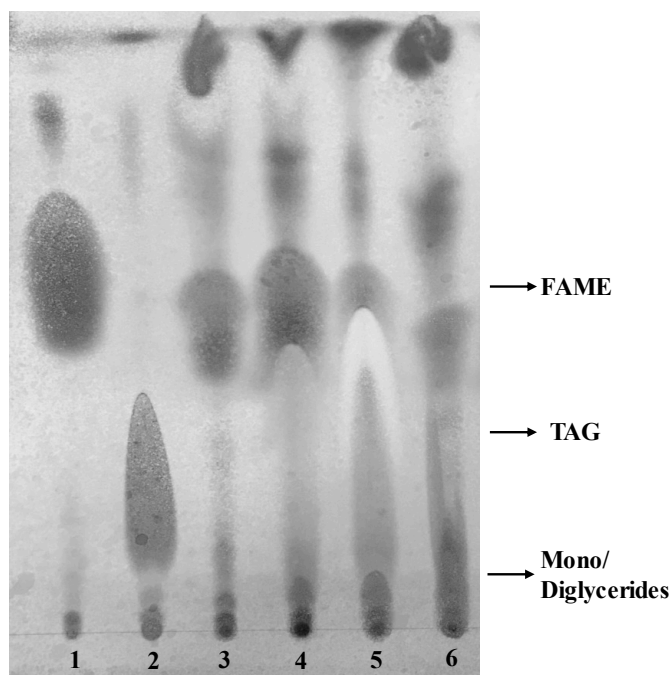
(a)

(b)

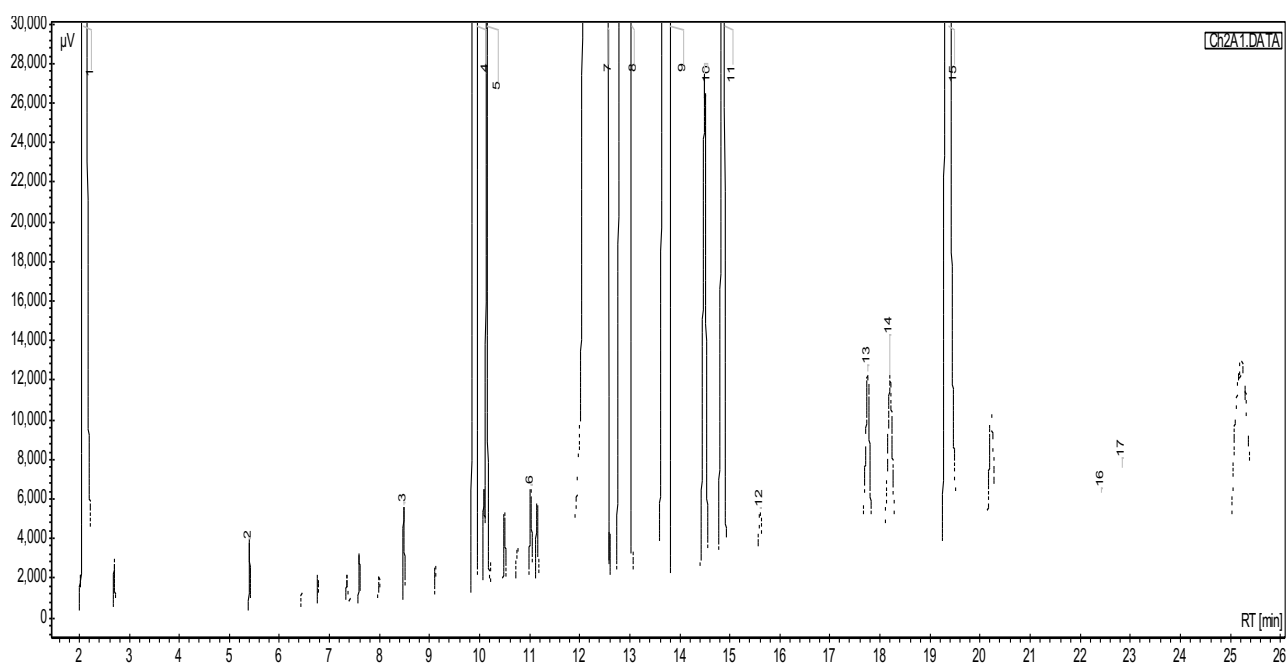
Appendix 4: Microscopic observation of *Pseudokirchneriella subcapitata* under (a) 100X magnification. Microalgal cells containing neutral lipids present in *Pseudokirchneriella subcapitata* after incubation with 20% (v/v) of DMSO with 5 $\mu\text{g/ml}$ of Nile Red dye under 100X magnification (b). Cells without any fluorescence have either no neutral lipid or too few lipids to be observed visually.



Appendix 5: Standard curve for the quantification of neutral lipids in microalgae cells using triolein as standard. The average values of triplicate repeats of three independent assays are plotted, with the error bars depicting the standard deviation.



Appendix 6: Lipase catalysed transesterification reaction of TAGs from *Pseudokirchneriella subcapitata* and *Chlorella emersonii* after 72h of incubation at 40°C. Lanes 1 and 2 represent the FAME standard and olive oil. Lanes 3 and 4 are the transesterification reactions of *Pseudokirchneriella subcapitata* and *Chlorella emersonii* respectively catalysed by lipase from *P. reinekei* (H1). Lanes 5 and 6 are the transesterification reactions of *Pseudokirchneriella subcapitata* and *Chlorella emersonii* respectively catalysed by lipase from *P. brenneri* (H3).



Appendix 7: GC chromatogram of FAMEs synthesized from the transesterification reaction of *Chlorella emersonii* using lipase from *P. reinekei* (H1). 1: Solvent; 2: lauric acid (C12:0); 3: cis-10-pentadecenoic acid (C15:1); 4: cis-10-heptadecenoic acid (C17:1); 5: stearic acid (C18:0); 6: oleic acid (C18:1n9c); 7: γ -linolenic acid (C18:3n6); 8: α -linolenic acid (C18:3n3); 9: arachidic acid (C20:0); 10: cis-11-eicosenoic acid (C20:1n9); 11: cis-11,14-eicosadienoic acid (C20:2); 12: cis-8,11,14-eicosatrienoic acid (C20:3n6); 13: cis-5,8,11,14,17-eicosapentaenoic acid (C20:5n3); 14: behenic acid (C22:0); 15: cis-13,16-docosadienoic acid (C22:2); 16: tricosanoic acid (C23:0); 17: lignoceric acid (C24:0).