

Table S1: Comparative study of DCW (g/L), lipid titer (g/L) and glucose consumption (g/L) of *R. toruloides* at different time interval on various glucose concentration (0.5 % (NH₄)₂SO₄)

	3 %			4 %			5 %			6 %		
Day	DCW (g/L)	Lipid titer (g/L)	Residual glucose (g/L)	DCW (g/L)	Lipid titer (g/L)	Residual glucose (g/L)	DCW (g/L)	Lipid titer (g/L)	Residual glucose (g/L)	DCW (g/L)	Lipid titer (g/L)	Residual glucose (g/L)
5 th	6.60 ± 0.16	3.30 ± 0.04	5.85 ± 0.071	5.2 ± 0.19	3.1 ± 0.20	17.34 ± 0.25	5.5 ± 0.06	3.1 ± 0.04	19.55 ± 0.087	6.44 ± 0.11	3.12 ± 0.14	37.08 ± 0.27
6 th	6.80 ± 0.18	3.40 ± 0.08	1.67 ± 0.005	5.5 ± 0.32	3.48 ± 0.18	10.16 ± 0.35	5.7 ± 0.08	3.48 ± 0.15	12.48 ± 0.056	7.15 ± 0.28	4.27 ± 0.36	29.35 ± 0.34
7 th	6.66 ± 0.12	3.23 ± 0.05	0.013 ± 0.004	7.6 ± 0.18	3.66 ± 0.16	8.23 ± 0.28	7.8 ± 0.05	4.64 ± 0.009	9.44 ± 0.062	9.26 ± 0.23	4.16 ± 0.34	18.61 ± 0.25
8 th	6.53 ± 0.08	2.13 ± 0.06	0	8.20 ± 0.15	4 ± 0.007	2.58 ± 0.006	9.6 ± 0.12	5.8 ± 0.08	4.26 ± 0.007	10.4 ± 0.28	5.3 ± 0.12	10.29 ± 0.004
9 th	-	-	-	8.19 ± 0.18	4.02 ± 0.005	3.18 ± 0.23	9.50 ± 0.14	5.7 ± 0.068	3.72 ± 0.048	10.35 ± 0.045	3.3 ± 0.18	5.6 ± 0.07
10 th	-	-	-	8.20 ± 0.26	3.99 ± 0.08	1.96 ± 0.24	9.38 ± 0.09	5.2 ± 0.054	2.18 ± 0.069	10.17 ± 0.34	3.2 ± 0.04	5.12 ± 0.05

At 3 % Glucose, 0.5 % (NH₄)₂SO₄ i.e. control maximum lipid is produced at 6th day (144 h) while for other conditions as the glucose concentration increases in the medium; glucose consumption rate decreases and time of lipid accumulating phase increases up to 8th day (192 h). 8th day (192 h). Hence, lipid accumulating phase is different for control (144 h) and other glucose concentration condition i.e. 192 h.

Similarly, for N- sufficient [5 % Glucose, 0.5 % (NH₄)₂SO₄] and N- limited [5 % Glucose, 0.12 % (NH₄)₂SO₄] maximum lipid is produced at 8th day (192 h). Hence, lipid accumulating phase is different for control (144 h) and N-sufficient (192 h) as well as N-limited (192 h) condition