

## SUPPORTING INFORMATION

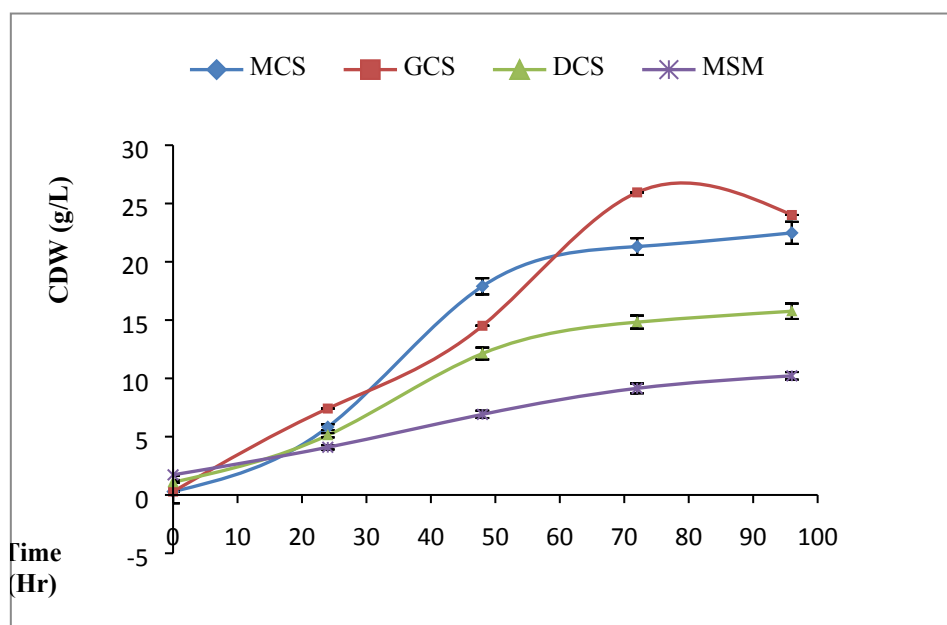
### Performance evaluation of a yeast biorefinery as a sustainable model for co-production of biomass, bioemulsifier, lipid, biodiesel and animal-feed components using inexpensive raw materials

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**Figure S1** . Time course growth profile of *P. guilliermondii* in grown in different media combinations

**Table T 1.** Cost of media component utilized for production of yeast lipid

Media component	Cost (INR/Kg)	Cost (USD/kg)
Molasses*	8.01	0.120
CSL <sup>#</sup>	7.0	0.105
DWW <sup>§</sup>	0.00	0.00
Crude glycerol <sup>¶</sup> , <sup>¶</sup> €	6.67	0.100
Refined glycerol	530	7.95
KH <sub>2</sub> PO <sub>4</sub> *	80.12	1.20
K <sub>2</sub> HPO <sub>4</sub> *	76.05	1.05
MgSO <sub>4</sub> *	4.67	0.07
NaCl*	4.0	0.06
CaCl <sub>2</sub> .2H <sub>2</sub> O*	6.67	0.10

CSL-corn Steep Liquor, DWW- Distillery waste water

\*Based on the current Indian market price sourced from where it was procured.

<sup>#</sup>The Times of India (2017). Amul hikes milk procurement prices for farmers. Accessed on February 24, 2017 from <http://epaperbeta.timesofindia.com/Article.aspx?eid=31805&articlexml=Amul-hikes-milk-procurement-prices-for-farmers-05022017007005>

<sup>#</sup>Based on the current Indian market price sourced from the concerned industry from where it was procured (Shukhjit Starch and Chemicals Ltd, Malda, West Bengal).

<sup>§</sup> DWW was obtained free of cost .

<sup>¶</sup> Kerr BJ, Dozier WA, Bregendahl K: Nutritional value of crude glycerine for non-ruminants. Proceedings of the 23rd Annual Carolina Swine Nutrition Conference. 2007, Raleigh, NC, 6-18.

<sup>¶</sup>F. X. Yang, M. A. Hanna and R. C. Sun, *Biotechnol Biofuels*, 2012, **5**.

and increasing at 5°C min<sup>-1</sup> to 180°C for 10 min and 6 °C min<sup>-1</sup> to 220 °C for 11 min.

Table T 2. Composition of the crude glycerol

Component	Concentration (% w/w)
Fat	9.74
Carbohydrate	76.4
Protein	0.06
Ash	2.5
Moisture	10.8

Table T3. Characteristics of CSL

Property	concentration
Density	1.22
Protein (%)	43.8
Carbohydrate (%)	13.32
Ash (%)	10.28
Dry matter	50

Table T4.Characteristics of Molasses

Composition	Concentration (% w/w)
Non reducing sugar (Sucrose)	28
Reducing sugar (glucose and fructose)	19
Other carbohydrate	8.52
Crude Proteins	12.45
Salt	11.56
Water	19.86

Table T5.Characteristics of Distillery waste water (DWW)

Property	Concentration (mg/L)
TSS	15767
TS	18900
COD	62370
BOD	39000

TSS-Total suspended solid, TS- Total solid, COD- Chemical oxygen Demand, BOD- Biological oxygen demand.