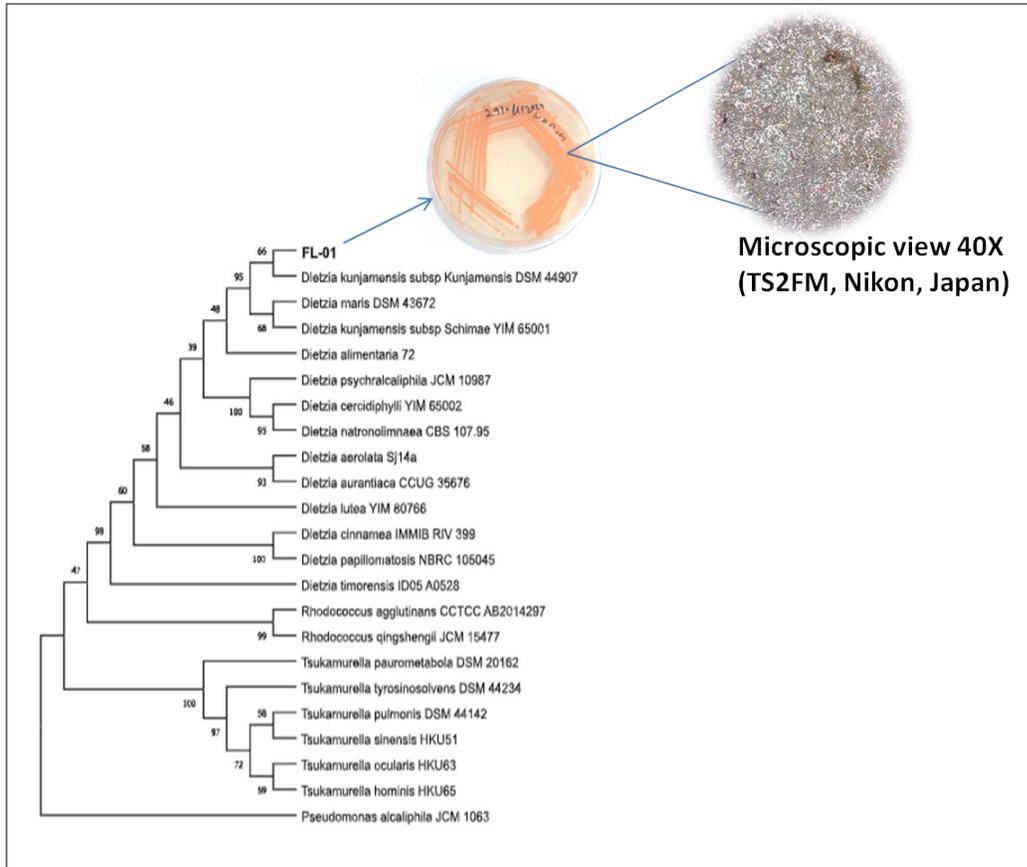


Supplementary File

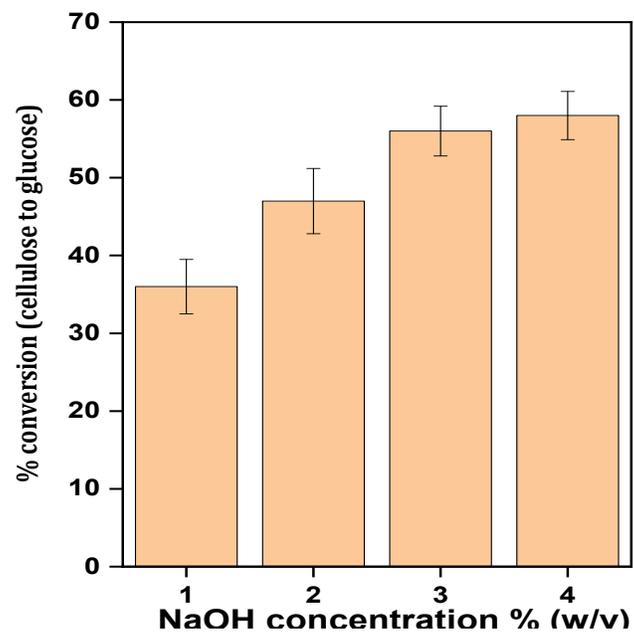
Valorization of Rice Straw Residue for Canthaxanthin Production via Sustainable Bioprocessing

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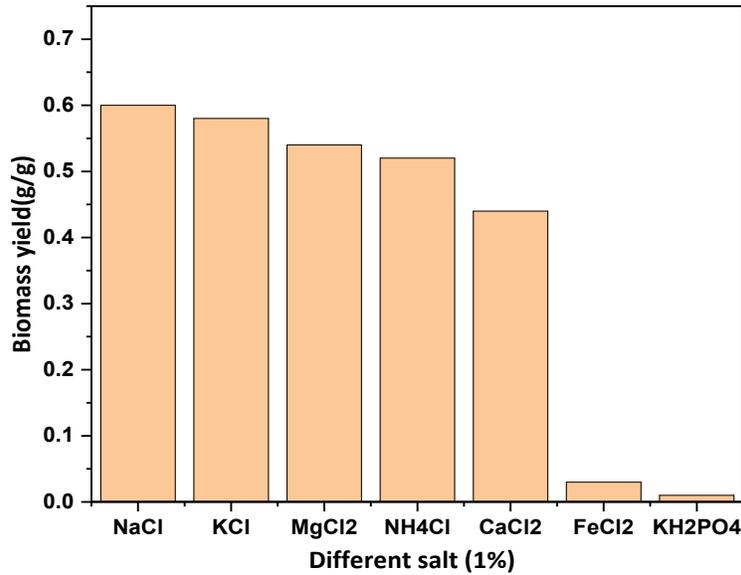
Sr. no.	Content	Page no.
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2	Conversion of cellulose to glucose at different concentration of NaOH	S2
3	Effect of different salt on biomass yield	S3
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Supplementary Fig 1: Phylogenetic tree and microscopic image of *Dietzia Kunjamensis* (FL-01)



Supplementary Fig 2: Conversion of cellulose to glucose at different concentration of NaOH



Supplementary Fig 3: Effect of different salt on biomass yield

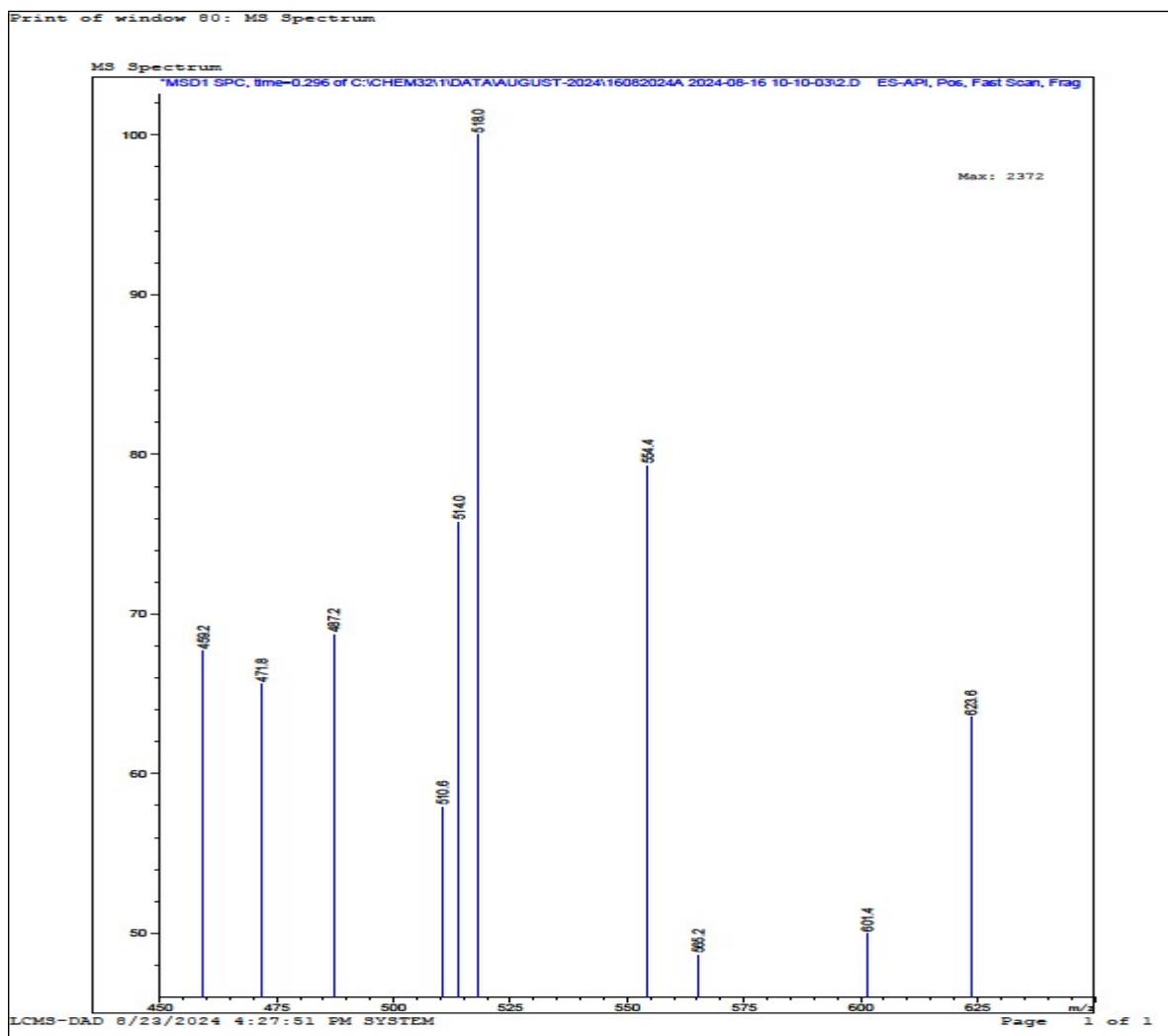
Supplementary Table 1: p-value of pair parameters of RSM

Sr. no.	Pair parameter	p-value
1	Glucose- Yeast Extract	< 0.0001
2	Glucose- NaCl	< 0.0001
3	Glucose- pH	0.3675
4	Glucose-Inoculum	< 0.0001
5	Yeast Extract- NaCl	< 0.0001
6	Yeast Extract- pH	< 0.0001
7	Yeast Extract- Inoculum	0.0011
8	NaCl- pH	0.2769

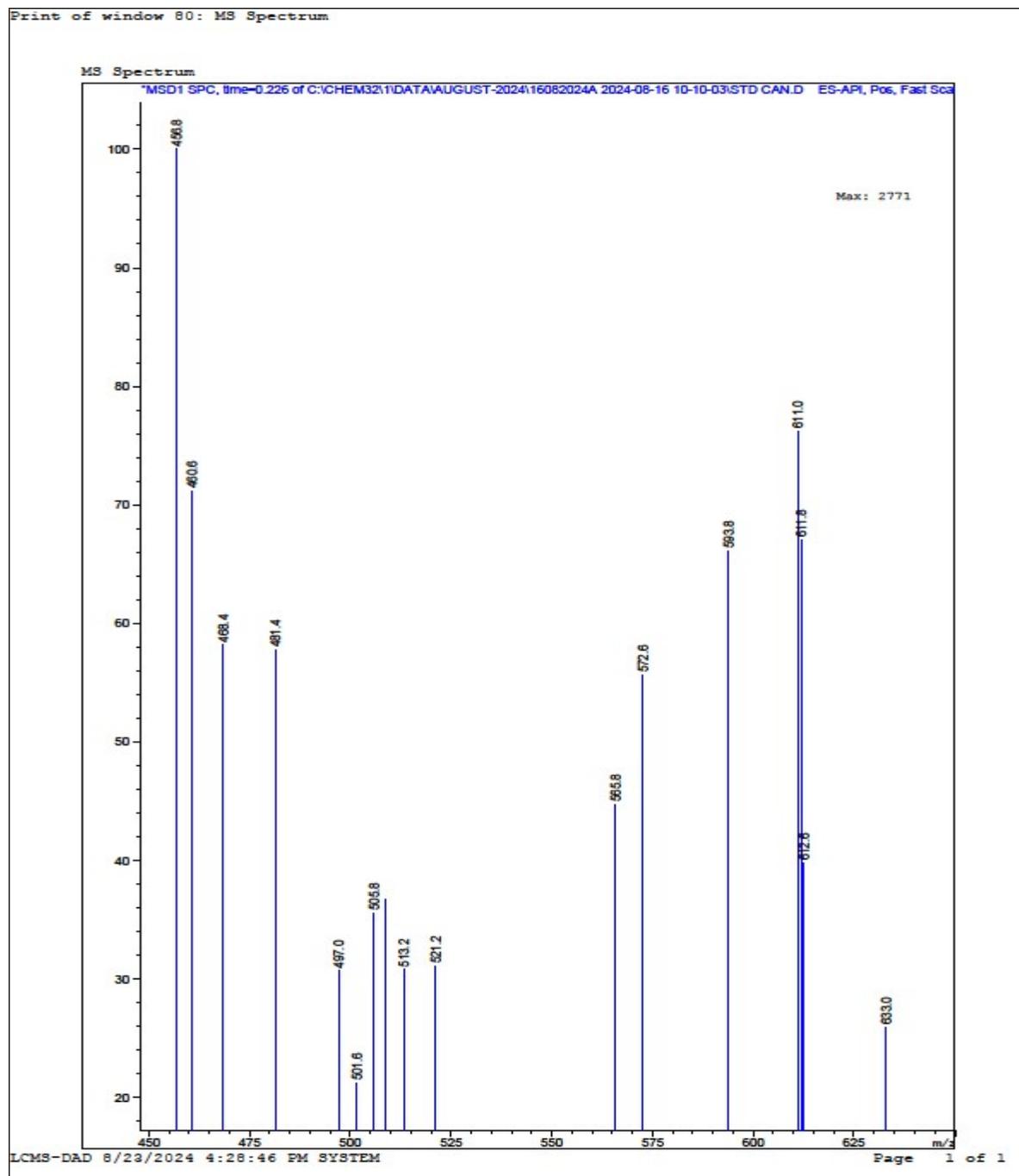
9	NaCl- Inoculum	0.4194
10	pH- Inoculum	0.8861

If p-value <0.05 then interaction between parameter is significant, if p-value >0.05 then interaction between pairs is insignificant in the suggested model.

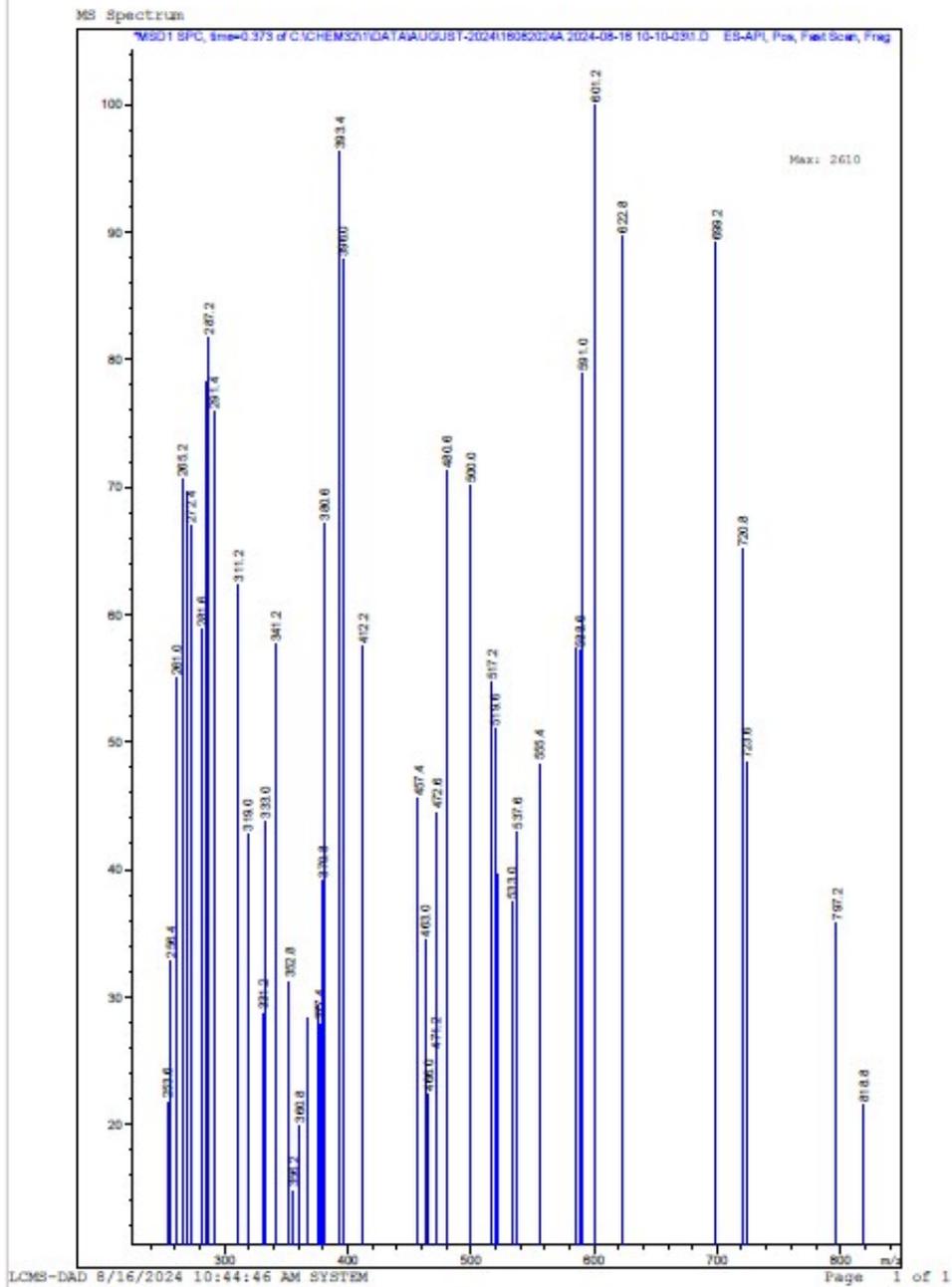
Mass Spectrum of sample and standard canthaxanthin and extracted β -carotene



Supplementary fig 4 (a): Mass spectra of sample canthaxanthin



Supplementary fig 4 (b): Mass spectra of standard canthaxanthin



Supplementary fig 4 (c): Mass spectra of extracted β -carotene

Supplementary Table 2: Encapsulation Efficiency of wall materials

Sr. no.	Wall materials	EE (%)
1	CD	24± 1.24
2	MD	62±1.31
3	PVP	75±1.10
4	SC	46±1.48
5	PC	35±2.12
6	CD-PC	54±1.85
7	MD-PC	39±2.64
8	PVP-PC	34±2.23
9	SC-PC	3±0.65