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Efficient carotenoid biosynthesis by *Rhodococcus corynebacterioides* utilizing nutrient-rich oilseed cakes as sustainable substrates

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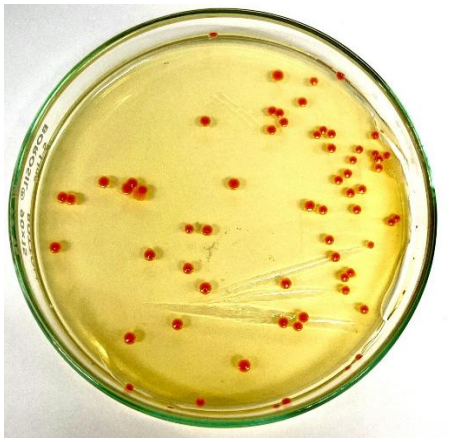
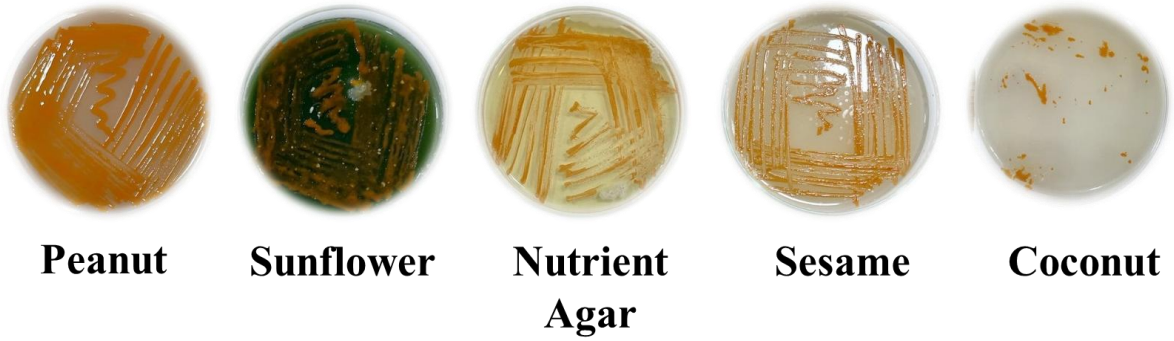
SUPPLEMENTARY MATERIAL



Supplementary Figure 1: Colony morphology of the *Rhodococcus corenybacteriodes*



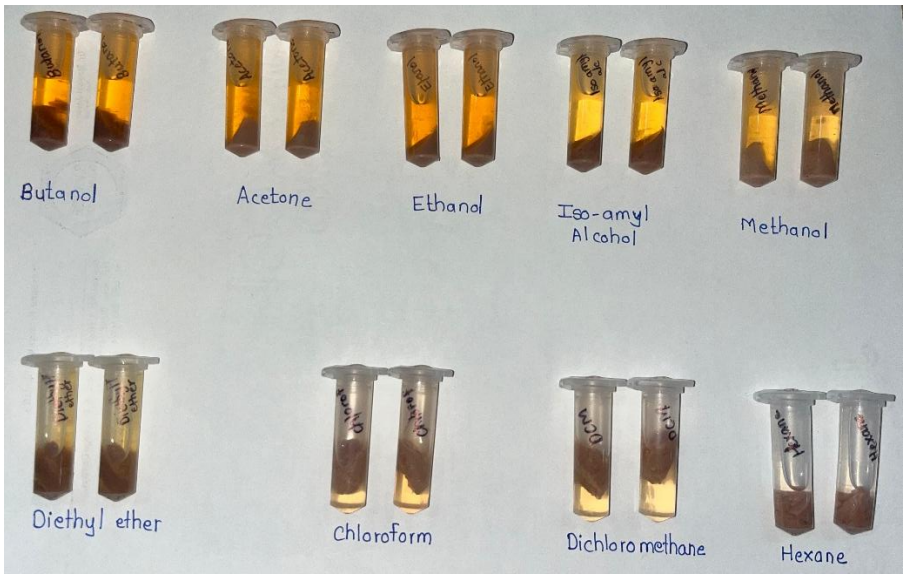
Supplementary Figure 2: Growth of bacteria on different solid media



Supplementary Figure 3: Growth of bacteria in different liquid media



Supplementary Figure 4: Effect of pH on growth and pigment production



Supplementary Figure 5: Solubility of pigment

Percent Identity Matrix - created by Clustal2.1 for 16s rRNA sequences of *R. corenybacteriodes*

1: MF372795.1	100.00	76.35	76.30	76.43	76.30	76.30	76.33	76.05	76.30	76.30	76.30
2: PP325871.1_1-1270	76.35	100.00	99.65	99.21	99.82	99.74	99.91	99.82	100.00	100.00	100.00
3: AB920566.1_232-1442	76.30	99.65	100.00	98.33	98.82	98.81	99.40	98.67	99.41	99.41	99.41
4: OQ132625.1_253-1451	76.43	99.21	98.33	100.00	99.41	99.32	98.80	98.75	98.91	98.91	98.91
5: OM758225.1_248-1441	76.30	99.82	98.82	99.41	100.00	99.91	99.40	99.33	99.50	99.50	99.50
6: KT003280.1_241-1416	76.30	99.74	98.81	99.32	99.91	100.00	99.31	99.23	99.40	99.40	99.40
7: JN030975.1_207-1371	76.33	99.91	99.40	98.80	99.40	99.31	100.00	99.74	99.91	99.91	99.91
8: AY837749.1_266-1477	76.05	99.82	98.67	98.75	99.33	99.23	99.74	100.00	99.83	99.83	99.83
9: OR717483.1_246-1444	76.30	100.00	99.41	98.91	99.50	99.40	99.91	99.83	100.00	100.00	100.00
10: AB685427.1_250-1444	76.30	100.00	99.41	98.91	99.50	99.40	99.91	99.83	100.00	100.00	100.00
11: FJ828880.2_248-1439	76.30	100.00	99.41	98.91	99.50	99.40	99.91	99.83	100.00	100.00	100.00

Supplementary Table 1: Retention time table for Standards Waters Empower™ 3 Chromatography Data System (CDS) software (Waters Corp., Milford, MA, USA)

	Name	Retention Time (min)	Area (µV*sec)	% Area	Height (µV)	Int Type	Amount	Units	Peak Type	Peak Codes
1		27.967	86642	19.72	9791	bb			Unknown	
2		35.106	352643	80.28	16405	bb			Unknown	

*27.967=Lutein & 35.106=β-carotene

Supplementary Table 2: Retention time of sample from Waters Empower™ 3 Chromatography Data System (CDS) software (Waters Corp., Milford, MA, USA)

	Name	Retention Time (min)	Area (µV*sec)	% Area	Height (µV)	Int Type	Amount	Units	Peak Type	Peak Codes
1		27.337	284957	16.06	35939	bb			Unknown	
2		27.821	176172	9.93	16042	bb			Unknown	
3		31.672	931583	52.51	29535	bb			Unknown	
4		35.094	381282	21.49	20814	bb			Unknown	

Substrate only chromatogram HPLC

https://drive.google.com/file/d/11nGKgr0lr37cNM8uj3qYS7jtVoo-J-bd/view?usp=sharing

