Supplementary Table S1

Monthly variation in temperature and atmospheric humidity in Sharjah Airport, a few Kilometers away from the study site.

Climatic variable		Oct. 20	Nov. 20	Dec. 20	Jan. 21	Feb. 21	Mar. 21	Apr. 21	May. 21	Jun. 21	Jul. 21	Aug. 21	Sep. 21
Temperature	Maximum	42	36	33	28	33	39	41	45	46	45	46	43
(°C)	Minimum	18	17	12	7	12	12	17	22	26	28	29	26
	Average	30	27	23	19	21	25	29	32	35	37	36	34
Humidity (%)	Maximum	89	88	88	100	100	94	100	89	94	79	89	94
	Minimum	3	21	18	11	12	6	6	3	7	11	6	9
	Average	44	56	54	56	65	47	42	46	47	43	49	54

Supplementary Table S2.

The relative % of metabolites detected in *C. colocynthis* fruits collected in Summer (Red Bold) and Winter (Blue) seasons, from the GC-MS profile results with an antioxidant activity. The analysed part (R: rind, P: pulp, S: seed).The accession number (6, 10, 13).

Compound	Class	References	Summer & Winter								
			A6			A10			A13		
			R	P	S	R	P	S	R	P	S
α -Linolenic acid	Fatty acid	(Wang et al., 2007)	**11.21** -	**-** 2.4	**-** -	**-** -	**-** -	**-** -	**-** 12.18	**-** 3.37	**-** -
β -Alanine	Amino acid	(Zhao et al., 2016)	**0.19** -	**-** -	**0.41** -	**0.46** -	**0.15** 0.23	**0.68** -	**0.7** -	**-** -	**0.44** -
β -D-(+)-Talopyranose	Aldohexose sugar	(Chandra et al., 2021)	**0.5** -	**-** -	**-** -	**-** -	**-** -	**-** -	**-** -	**-** -	**-** -
β -D-Allopyranose	Aldohexose sugar	(https://www.ebi.ac.uk/chebi/searchId.do?chebiId=CHEBI:40656)	**25.58** -	**-** 17.76	**-** -	**-** -	**-** -	**-** -	**36.36** 10	**-** -	**-** -
β -D-Galactofuranose	polysaccharides	(Hammami et al., 2018)	**-** -	**-** -	**0.14** -	**-** -	**-** -	**-** -	**-** -	**-** -	**0.13** -
β -Sitosterol	Phytosterol	(https://www.ebi.ac.uk/chebi/searchId.do?chebiId=CHEBI:27693)	**-** -	**-** -	**-** -	**11.94** -	**-** -	**-** -	**-** -	**-** -	**-** -
β -Tocopherol	Fat-soluble vitamin E, methylated phenols	(Burcova et al., 2019)	**0.09** -	**-** -	**3.75** -	**0.62** -	**-** -	**2.29** -	**-** -	**-** -	**2.03** -
1-Decanol, 2-hexyl-	fatty alcohol	(Martínez et al., 2009)	**-** 2.54	**6.07** -	**2.55** -	**0.52** 1.91	**-** 0.46	**2.42** -	**1.4** 0.03	**-** -	**2.33** -
1-Monolinolein	Monoglyceride	(Quijano-Avilés et al., 2021)	**0.95** -	**-** -	**-** -	**-** -	**-** -	**-** -	**-** -	**-** -	**-** -
1-Octacosanol	Fatty alcohol	(Sengupta et al., 2018)	**-** 24.67	**-** -	**-** -	**-** 0.42	**-** 0.05	**-** -	**-** 0.8	**-** -	**-** -

2-Methyltetracosane	Fatty Acyls (Hydrocarbon)	(Ramya et al., 2015)	-	-	-	-	-	-	**0.7**	**0.17**	-
			-	-	-	-	-	-	-	-	-
2-Methyl-3-pentanol	Fatty alcohol	(Ahmed et al., 2019)	-	-	**0.72**	-	-	**0.22**	-	-	**0.44**
			-	-	-	-	-	-	-	-	-
2-Oleoylglycerol	Monoradylglycerols	(Wang et al., 2014)	-	**86.4**	-	-	**4.11**	-	-	**2.84**	-
			2.54	-	-	-	-	-	-	-	-
4-Coumaric acid	Phenolic acid / Carboxylic acid	(Ilavenil et al., 2016)	**0.25**	**4.49**	-	-	**0.22**	-	-	**0.73**	-
			-	0.08	-	-	0.15	-	-	-	-
9,12-Octadecadienoic acid	Fatty acid methyl ester	(Pinto et al., 2017)	**0.18**	-	-	**4.99**	-	-	-	-	-
			-	-	-	-	-	-	-	-	-
Aucubin	Iridoid o-glycosides	(https://www.medchemexpress.com/Aucubin.html)	-	**3.04**	-	**11.32**	-	-	-	**3.34**	-
			59.33	-	-	-	-	-	2.29	0.09	-
Butanoic acid	Fatty acid	(Kumar et al., 2010)	-	-	-	**0.46**	-	-	-	-	-
			-	-	-	-	-	-	-	-	-
Butylated hydroxytoluene	Methyl phenol	(Iverson 1995)	**19.25**	-	-	**18.97**	**69.67**	-	-	**92.2**	-
			-	23.07	-	-	45.76	-	32.35	28.73	-
Citric acid	Organic acid	(Ryan et al., 2019)	-	-	**0.38**	-	**16.42**	**0.13**	**30.87**	-	**0.4**
			-	-	-	0.38	3	-	-	37.16	-
Citrulline	Amino acid	(Ahmadi et al., 2020)	-	-	-	-	**3.57**	-	**4.67**	-	-
			-	1	-	-	-	-	-	-	-
D-Psicopyranose	Hexose	(https://www.ebi.ac.uk/chebi/searchId.do?chebiId=CHEBI:27605)	**2.23**	-	-	-	-	-	-	-	-
			-	-	-	-	-	-	-	-	-
Disiloxane, hexamethyl-	Fatty Acyls (Hydrocarbon)	(Otify et al., 2019)	-	-	-	-	-	-	-	-	**0.13**
			-	-	-	-	-	-	-	-	-
Erythritol	Sugar alcohol	(Den Hartog et al., 2010)	-	-	-	-	**4.99**	-	**11.03**	-	-
			5.84	23.37	-	-	-	-	10.66	-	-
Ferulic acid	Hydroxycinnamic acid	(Hussain et al., 2013)	**0.15**	-	-	-	-	-	-	-	-

			-	-	-	-	-	-	-	-	-	
Myristic acid	Fatty acid	(Gurudeeban et al., 2010)	**0.49** -	**-** -	**2.42** 0.35	**7.41** 0.71	**0.87** -	**2.62** 0.44	**11.7** -	**0.73** -	**2.69** 0.38	
Oleic acid	Fatty acid	(Terés et al., 2008)	**-** 2.03	**-** -	**-** -	**-** -	**-** -	**-** -	**2.57** 0.03	**-** 0.1	**-** 0.35	
Palmitic acid	Fatty acid	(Sawaya et al., 1983)	**24.09** -	**-** 22.66	**33.83** 33.61	**28.38** 34.89	**-** 32.62	**34.7** 31.21	**-** 18.85	**-** 22.86	**34.51** 32.49	
Propionic acid	Fatty acid	(Dionisi-Vici et al., 2006)	**-** 3.05	**-** -	**-** -	**-** -	**-** -	**-** -	**-** -	**-** -	**-** -	
Stearic acid	Fatty acid	(Sadou et al., 2007)	**14.83** -	**-** 9.66	**55.8** 66.04	**14.95** 61.68	**-** 17.73	**56.93** 68.34	**-** 12.8	**-** 7.68	**56.9** 66.77	