

Table S1. Assignment of FTIR absorption bands of biominerals extracted from tissues of Cactee species.

Wavenumber (cm ⁻¹)	Assignments	References of wavenumbers (cm ⁻¹)	References
3466-3420	OH stretching (associated to water and calcium oxalate dihydrate)	3469; 3559-3257; 3600-3200	[29,32,33]
2928-2916	CH ₂ asymmetrical vibration (cellulose residues)	3000-2800; 2959, 2925	[29,34]
2854-2849	CH stretching (cellulose residues)	3000-2800; 2866, 2854	[29,34]
1734-1729	C=O stretching (hemicellulose residue, ester bonds)	1732	[29,30]
1648 -1594	CO asymmetrical vibration (associated to calcium oxalate dihydrate)	1640; 1640-1638	[32,33]
1476-1466	CO symmetrical vibration (associated to calcium oxalate dihydrate))	1475	[33]
1410	CO stretching (calcium carbonate)	1450-1410; 1450-1410	[29,39]
1332-1317	CO symmetrical vibration (associated to calcium oxalate dihydrate)	1330-1327; 1319	[32,33]
1235	C=O stretching (hemicellulose residue, ester bonds)	1240	[29,30]
1162-1143	C-O-C (cellulose residue; β-1,4 glycosyl)	1170-1150	[30]
1096-1026	Si-O-Si asymmetric stretching modes (associated to silicates or opal)	1020, 1093; 1080; 1100-900	[29,34,35]
913-910	CO symmetrical vibration (associated to calcium oxalate dihydrate)	917-915; 915	[32,33]
894	C-O in plane bending (associated to calcium carbonate)	874; 880-800	[29,39]
771-754	OCO scissoring + libration HOH (associated to calcium oxalate dihydrate)	770	[33]
701	C-O in plane bending (associated to calcium carbonate)	715	[39]
517	OCO libration wagging + libration OHO (associated to calcium oxalate dihydrate)	516 - 400	[33]