

APPENDIX

Appendix

FTIR frequency range table		
Frequency Range	Absorption (cm ⁻¹)	Group
4000-3000cm ⁻¹	3700-3584	O-H stretching
	3550-3200	O-H stretching
	3500	N-H stretching
	3400	
	3400-3300	N-H stretching
	3330-3250	
	3350-3310	N-H stretching
	3300-2500	O-H stretching
	3200-2700	O-H stretching
	3000-2800	N-H stretching
3000-2500cm ⁻¹	3333-3267	C-H stretching
	3100-3000	C-H stretching
	3000-2840	C-H stretching
	2830-2695	C-H stretching
	2600-2550	S-H stretching
2400-2000cm ⁻¹	2349	O=C=O stretching
	2275-2250	N=C=O stretching
	2260-2222	C≡N stretching
	2260-2190	C≡N stretching
	2175-2140	S-C≡N stretching
	2160-2120	N=N=N stretching
	2150	C=C=O stretching
	2145-2120	N=C=N stretching
	2140-2100	C≡C stretching
	2140-1990	N=C=S stretching
	2000-1900	C=C=C stretching
	2000	C=C=N stretching
2000-1650cm ⁻¹	2000-1650	C-H bending
	1870-1540	
	1818	C=O stretching
	1750	
	1815-1785	C=O stretching
	1800-1770	C=O stretching
	1775	C=O stretching
	1720	
	1770-1780	C=O stretching
	1760	C=O stretching

	1750-1735	C=O stretching
	1745	C=O stretching
	1740-1720	C=O stretching
	1730-1715	C=O stretching
	1725-1705	C=O stretching
	1720-1706	C=O stretching
	1710-1680	C=O stretching
	1710-1685	C=O stretching
	1690	C=O stretching
	1690-1640	C=N stretching
	1685-1666	C=O stretching
	1680	C=O stretching
	1650	C=O stretching
1670-1600cm ⁻¹	1678-1668	C=C stretching
	1675-1665	C=C stretching
	1662-1626	C=C stretching
	1658-1648	C=C stretching
	1650-1600	C=C stretching
	1650-1580	N-H stretching
	1650-1566	C=C stretching
	1648-1638	C=C stretching
	1620-1610	C=C stretching
1600-1300cm ⁻¹	1550-1500	N-O stretching
	1372-1290	
	1465	C-H stretching
	1450	C-H stretching
	1375	
	1390-1380	C-H stretching
	1385-1380	C-H stretching
	1370-1365	
1400-1000cm ⁻¹	1440-1395	O-H bending
	1420-1330	O-H bending
	1415-1380	S=O stretching
	1200-1185	
	1410-1380	S=O stretching
	1204-1177	
	1400-1000	C-F stretching
	1390-1310	O-H bending
	1372-1335	S=O stretching
	1195-1168	
	1370-1335	S=O stretching

	1170-1155	
	1350-1342	S=O stretching
	1165-1150	
	1350-1300	S=O stretching
	1160-1120	
	1342-1266	C-N stretching
	1310-1250	C-O stretching
	1275-1200	C-O stretching
	1075-1020	
	1250-1020	C-N stretching
	1225-1200	C-O stretching
	1075-1020	
	1210-1163	C-O stretching
	1205-1124	C-O stretching
	1150-1085	C-O stretching
	1124-1087	C-O stretching
	1085-1050	C-O stretching
	1070-1030	S=O stretching
	1050-1040	CO-O-CO stretching
1000-650cm ⁻¹	995-985	C=C bending
	915-905	
	980-960	C=C bending
	895-885	C=C bending
	850-550	C-Cl stretching
	840-790	C=C bending
	730-665	C=C bending
	690-515	C-Br stretching
	600-500	C-I stretching
900-700cm ⁻¹	880±20	C-H bending
	810±20	
	880±20	C-H bending
	780±20	
	810±20	C-H bending
	780±20	C-H bending
	755±20	C-H bending
	750±20	C-H bending
	700±20	

Source: Bevitori. A., et.al. (2014).