

Tabela 2 - Frequências de grupo (cm<sup>-1</sup>) e intensidades em compostos orgânicos (IV e Raman)

Characteristic frequencies and Raman and infrared intensities of groups in organic compounds

Vibration [a]	Region [cm <sup>-1</sup> ]	Intensity[b]	
		Raman	IR
$\nu(\text{O-H})$	3650–3000	w	s
$\nu(\text{N-H})$	3500–3300	m	m
$\nu(\equiv\text{C-H})$	3300	w	s
$\nu(=\text{C-H})$	3100–3000	s	m
$\nu(-\text{C-H})$	3000–2800	s	s
$\nu(-\text{S-H})$	2600–2550	s	w
$\nu(\text{C}\equiv\text{N})$	2255–2220	m-s	s-0
$\nu(\text{C}\equiv\text{C})$	2250–2100	vs	w-0
$\nu(\text{C=O})$	1820–1680	s-w	vs
$\nu(\text{C=C})$	1900–1500	vs-m	0-w
$\nu(\text{C=N})$	1680–1610	s	m
$\nu(\text{N=N})$ , aliph. subst.	1580–1550	m	0
$\nu(\text{N=N})$ , arom. subst.	1440–1410	m	0
$\nu_a(\text{C-NO}_2)$	1590–1530	m	s
$\nu_s(\text{C-NO}_2)$	1380–1340	vs	m
$\nu_a(\text{C-SO}_2(-\text{C}))$	1350–1310	w-0	s
$\nu_s(\text{C-SO}_2(-\text{C}))$	1160–1120	s	s
$\nu(\text{C-SO}(-\text{C}))$	1070–1020	m	s
$\nu(\text{C=S})$	1250–1000	s	w
$\delta(\text{CH}_2)$ , $\delta_a(\text{CH}_3)$	1470–1400	m	m
$\delta_s(\text{CH}_3)$	1380	m-w, s, if at C=C	s-m
$\nu(\text{CC})$ , aromatics	1600, 1580 1500, 1450 1000	s-m m-w s (in mono-, m-, and 1,3,5- derivatives)	m-s m-s 0-w
$\nu(\text{CC})$ , alicyclics, aliph. chains	1300–600	s-m	m-w
$\nu_a(\text{C-O-C})$	1150–1060	w	s
$\nu_s(\text{C-O-C})$	970–800	s-m	w-0
$\nu_a(\text{Si-O-Si})$	1110–1000	w-0	vs
$\nu_s(\text{Si-O-Si})$	550–450	vs	w-0
$\nu(\text{O-O})$	900–845	s	0-w
$\nu(\text{S-S})$	550–430	s	0-w
$\nu(\text{Se-Se})$	330–290	s	0-w
$\nu(\text{C(arom.)-S})$	1100–1080	s	s-m
$\nu(\text{C(aliph.)-S})$	790–630	s	s-m
$\nu(\text{C-Cl})$	800–550	s	s
$\nu(\text{C-Br})$	700–500	s	s
$\nu(\text{C-I})$	660–480	s	s
$\delta_s(\text{CC})$ , aliph. chains $C_n$ $n = 3\dots 12$ $n > 12$	400–250 2495/ $n$	s-m	w-0
Lattice vibrations in molecular crystals (librations and translational vibrations)	200–20	vs-0	s-0

[a]  $\nu$  stretching vibration,  $\delta$  bending vibration,  $\nu_s$  symmetric vibration,  $\nu_a$  antisymmetric vibration.

[b] vs very strong, s strong, m medium, w weak, 0 very weak or inactive.