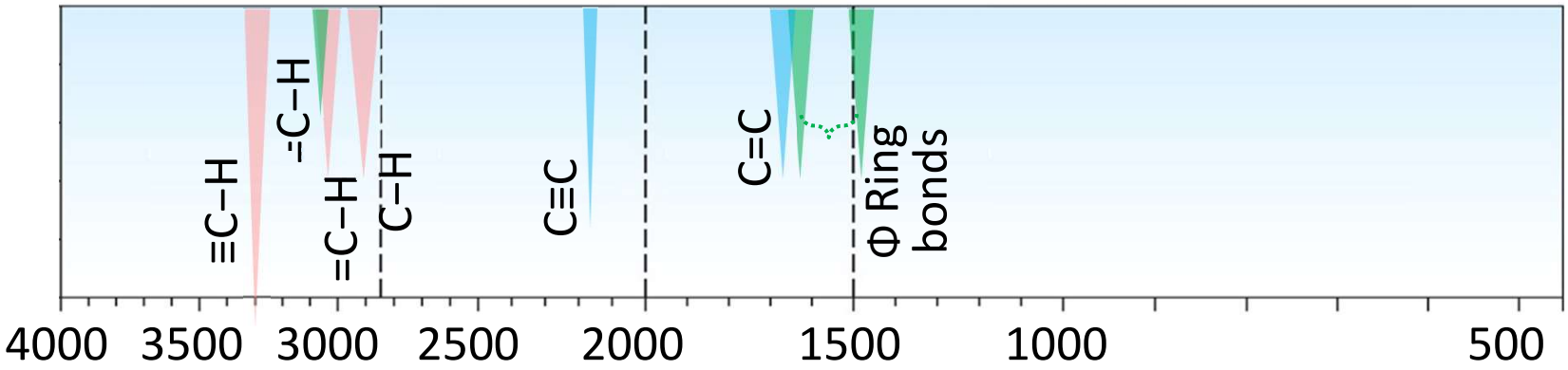
NP2

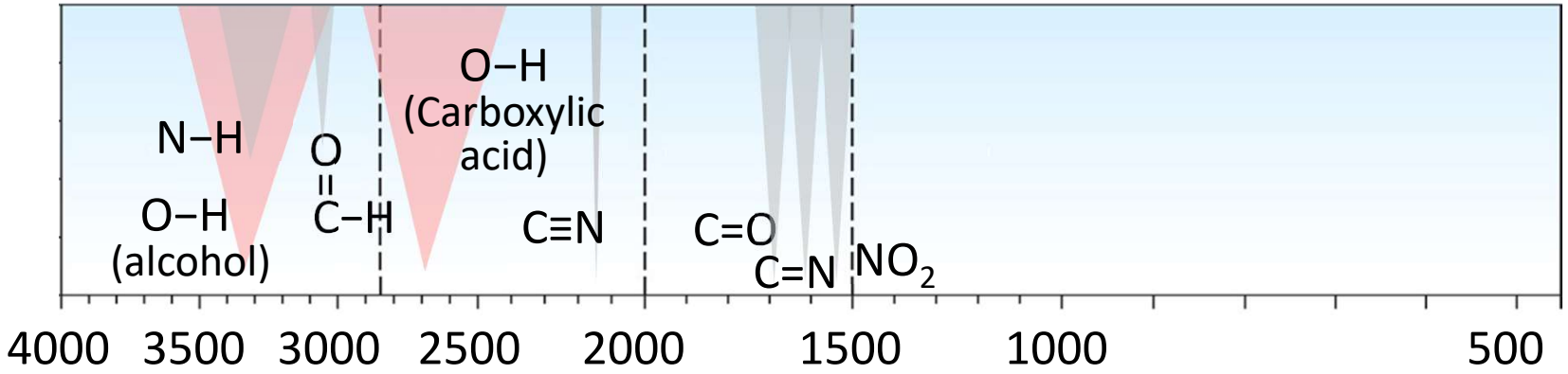
Infrared absorption frequencies of hydrocarbons



Bond	Class	Frequency, cm^{-1}	Signal	Bond	Class	Frequency (cm^{-1})	Signal
C-H	Alkane	2850-2960	M	≡C-H	Alkyne	3300	S
=C-H	Alkene	3020-3100	M	C≡C 3	Alkyne	2100-2260	M
C=C 2	Alkene	1640-1680	M ✓	=C-H	Arene	3030	W
W: weak, M: medium, S: strong ✓				Φ Ring bonds 1½	Arene	1450-1600	M

NP3

Infrared absorption frequencies of oxygen-containing substances



Bond	Functional class	Frequency cm^{-1}	Signal	Bond	Class	Frequency cm^{-1}	Signal
O-H	Alcohol	3400-3650	S&B	N-H	Amine	3300-3500	M
O-H	Carboxylic acid	2500-3100	S&B	C=N	Imine	1610-1690	S
=C-H	Aldehyde	3020-3100	M	C≡N	Nitrile	2210-2260	M
C=O	Aldehyde, ketone, ester, amide and carboxylic acid	1670-1780	S	NO_2	Nitro	1540	S
				W: weak, M: medium, S: strong			