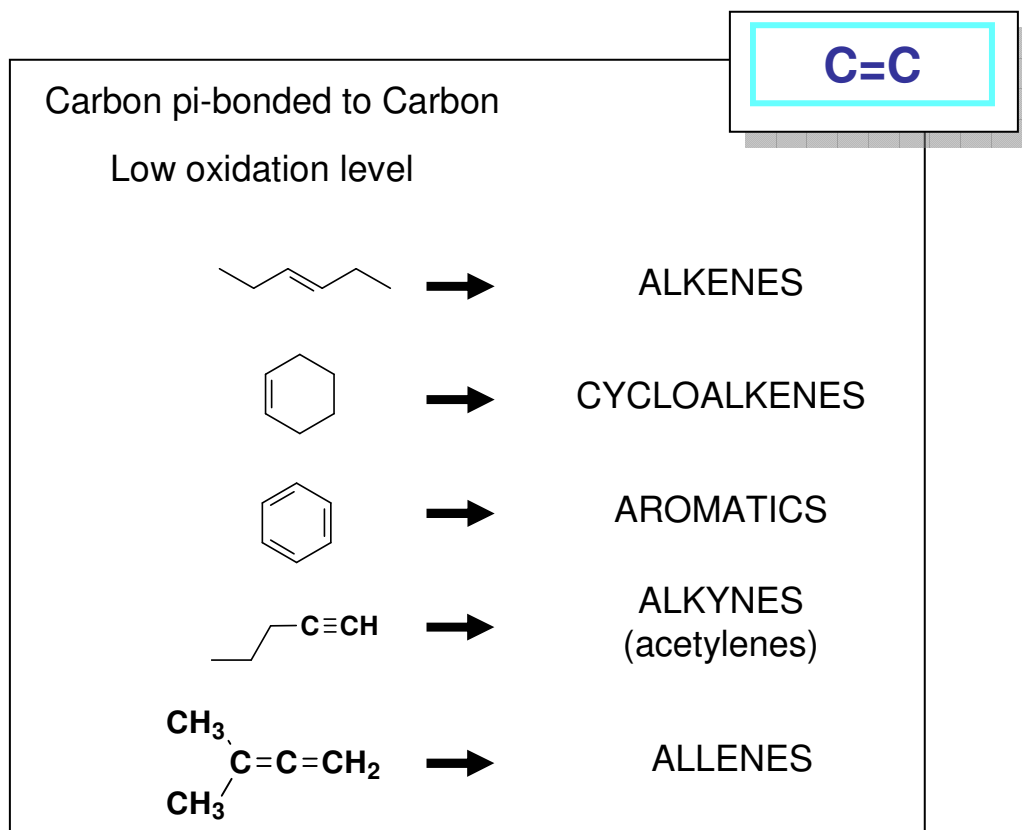


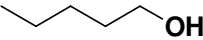
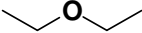
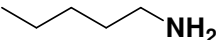
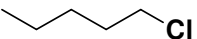
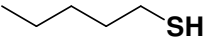
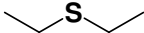
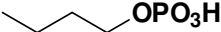
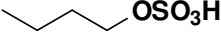


PRINTABLE LIST OF FUNCTIONAL GROUPS ORGANIZED BY TYPE

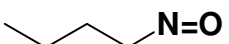
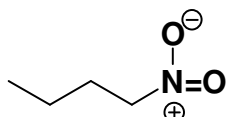
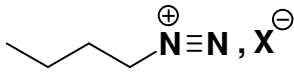
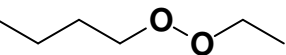
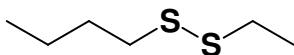
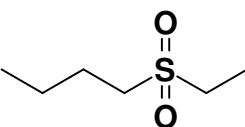
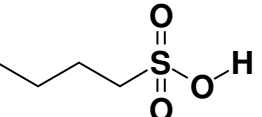
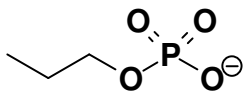




Carbon single-bonded to heteroatom
X = N, O, halides, S.

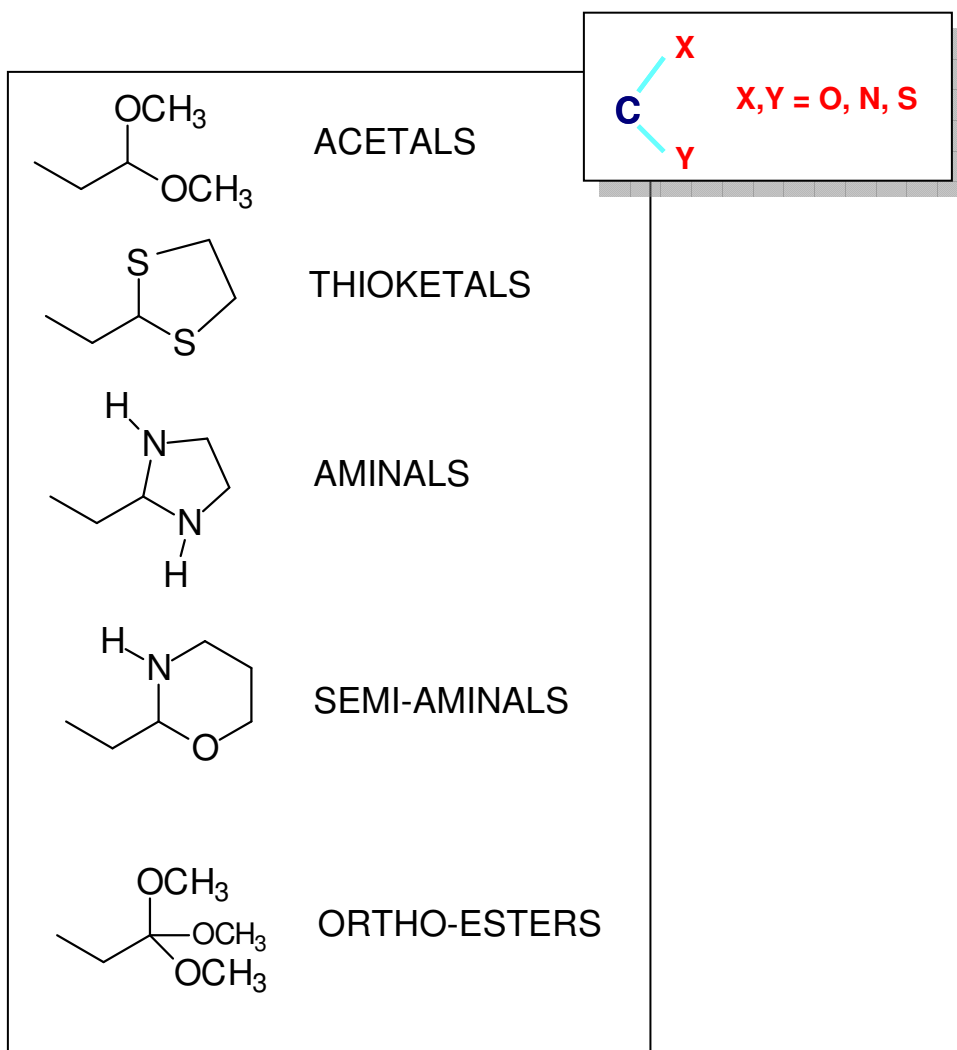
		C-X
 OH	ALCOHOLS	
 O	ETHERS	
 NH₂	AMINES	
 Cl (F, Cl, Br, I)	HALIDES	
 SH	THIOLS (MERCAPTANS)	
 S	THIOETHERS (SULFIDES)	
 OPO₃H	PHOSPHATES	
 OSO₃H	ORGANIC SULFATES	

Carbon single-bonded to heteroatom in higher oxidation level

		C-X
	N=O	NITROSO
	$\text{N}=\text{O}$ \ominus \oplus	NITRO
	$\text{N}\equiv\text{N}, \text{X}^{\ominus}$ \oplus	DIAZONIUM SALT
	O-O	PEROXIDE
	S-S	DISULFIDES
	$\text{S}=\text{O}$ S O	SULFONES
	$\text{S}=\text{O}$ S O O-H	SULFONIC ACID
	$\text{P}=\text{O}$ P O O^{\ominus}	PHOSPHATE

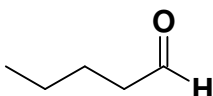
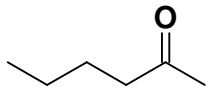
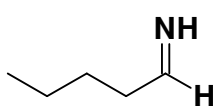
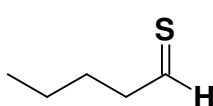
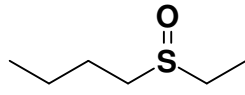


Carbon single-bonded to two or three heteroatoms



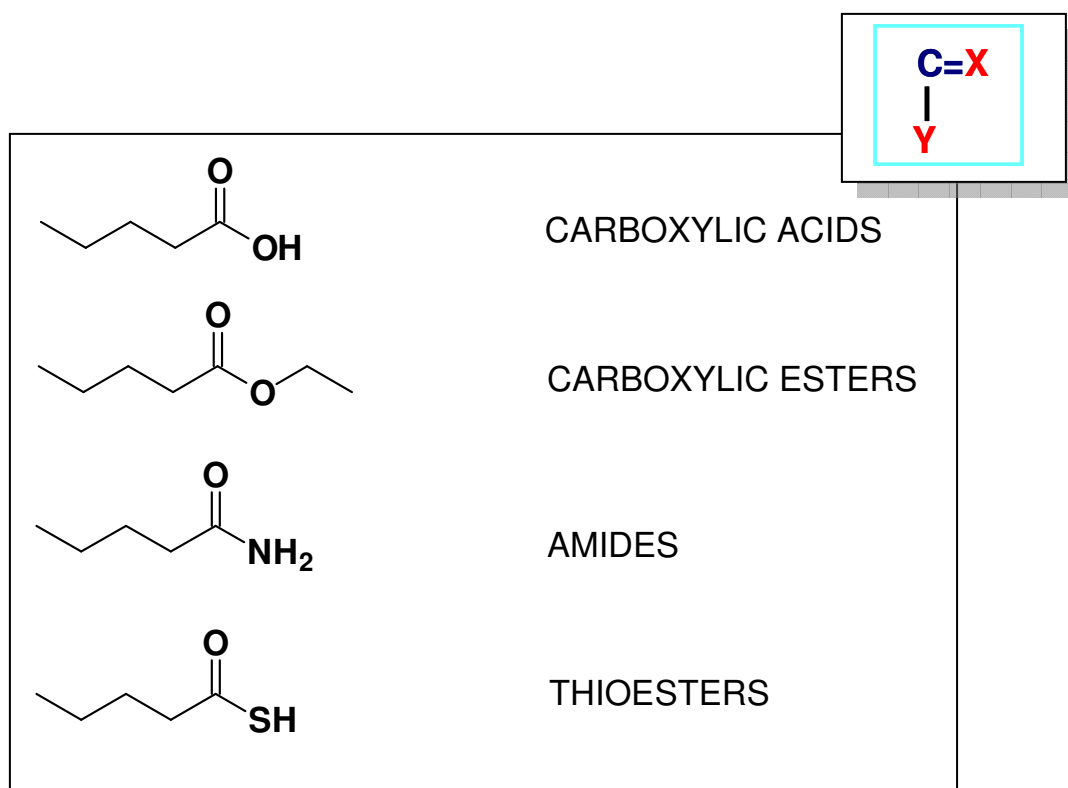


Carbon double-bonded to one heteroatom

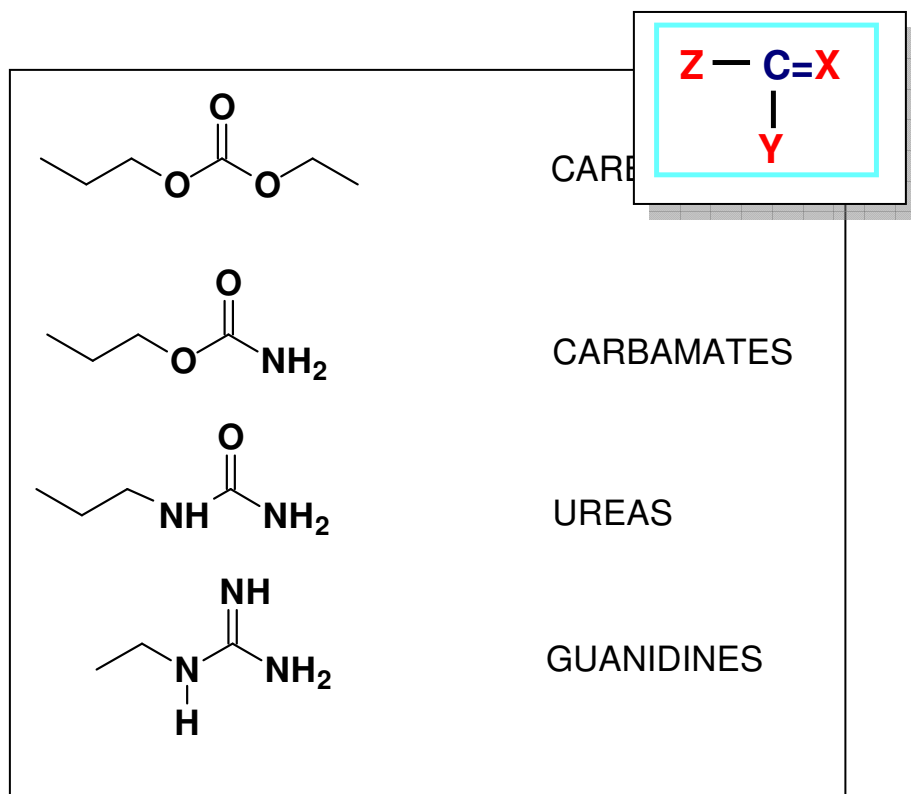
$C=X$	
	ALDEHYDES
	KETONES
	IMINES/ALDIMINES
	THIOALDEHYDES
	SULFOXIDES



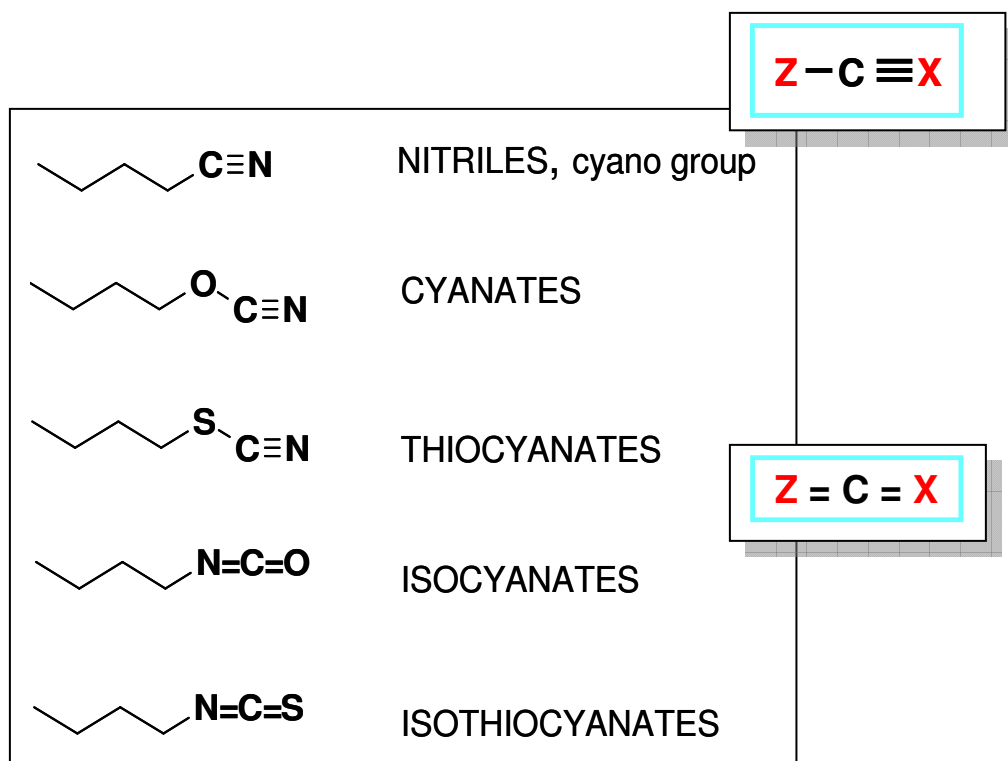
Carbon single- and double-bonded to heteroatoms



Carbon and -bonded to three heteroatoms



Carbon with multiple -bonds to heteroatoms



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