

Contents

Foreword.....	Page iii
I. Introduction.....	1
II. Table of vibrational frequencies.....	3

List of Tables

	Page		Page
114. Hydrogen oxide, H_2O	5	143. Bromoform- d_1 , CDBr_3	19
115. Hydrogen oxide- d_1 , HDO	5	144. Acetylene, CHCH	20
116. Hydrogen oxide- d_2 , D_2O	6	145. Acetylene- d_1 , CHCD	20
117. Nitrous oxide, $^{14}\text{N}_2\text{O}$	6	146. Acetylene- d_2 , CDCD	21
118. Nitrous oxide, $^{14}\text{N}^{15}\text{NO}$	7	147. Fluoroacetylene, HCCF	21
119. Nitrous oxide, $^{15}\text{N}_2\text{O}$	7	148. Chloroacetylene, HCCCl	22
120. Oxygen difluoride, F_2O	8	149. Bromoacetylene, HCCBr	22
121. Oxygen dichloride, Cl_2O	8	150. Methyl isocyanide, CH_3NC	23
122. Silyl fluoride, SiH_3F	9	151. Methyl isocyanide- d_3 , CD_3NC	23
123. Silyl chloride, SiH_3Cl	9	152. Acetic acid, CH_3COOH (gas).....	24
124. Silyl bromide, SiH_3Br	10	153. Acetic acid- d_1 , CH_3COOD (gas).....	25
125. Hydrogen sulfide, H_2S	10	154. <i>cis</i> -1,2-Difluoroethylene, CHFCHF	26
126. Hydrogen sulfide- d_2 , D_2S	11	155. <i>cis</i> -1,2-Difluoroethylene- d_1 , CHFCDf	27
127. Sulfur hexafluoride, SF_6	11	156. <i>cis</i> -1,2-Difluoroethylene- d_2 , CDFCDF	27
128. Germanium tetrachloride, GeCl_4	12	157. 1,1-Dichloroethylene, CH_2CCl_2	28
129. Germanium tetrabromide, GeBr_4	12	158. 1,1-Dichloroethylene- d_1 , CHDCCl_2	28
130. Hydrogen selenide, H_2Se	13	159. 1,1-Dichloroethylene- d_2 , CD_2CCl_2	29
131. Hydrogen selenide- d_1 , HDSe	13	160. Methylacetylene, CH_3CCH	29
132. Selenium hexafluoride, SeF_6	14	161. Methylacetylene- d_1 , CH_3CCD	30
133. Tin (IV) chloride, SnCl_4	14	162. Methylacetylene- d_3 , CD_3CCH	30
134. Tin (IV) bromide, SnBr_4	15	163. Methylacetylene- d_4 , CD_3CCD	31
135. Hydrogen cyanide, HCN	15	164. Propane- d_2 , $\text{CH}_3\text{CD}_2\text{CH}_3$	32
136. Hydrogen cyanide- d_1 , DCN	16	165. Propane- d_3 , $\text{CH}_3\text{CH}_2\text{CD}_3$	33
137. Formic acid, HCOOH (gas).....	16	166. Propane- d_6 , $\text{CD}_3\text{CH}_2\text{CD}_3$	34
138. Formic acid- d_2 , DCOOD (gas).....	17	167. Propane- d_8 , $\text{CD}_3\text{CD}_2\text{CD}_3$	35
139. Fluoroform, CHF_3	17	168. Acetone, CH_3COCH_3	36
140. Chloroform, CHCl_3	18	169. Acetone- d_3 , CH_3COCd_3	37
141. Chloroform- d_1 , CDCl_3	18	170. Acetone- d_6 , CD_3COCd_3	38
142. Bromoform, CHBr_3	19	171. 1,3-Butadiene, $\text{CH}_2\text{CHCHCH}_2$	39

