

between the glass and coesite forms of  $\text{BeF}_2$ . The  $R_m$  for the cristobalite and quartz forms respectively of  $\text{BPO}_4$ ,  $\text{BAsO}_4$ ,  $\text{AlPO}_4$ ,  $\text{AlAsO}_4$  also are approximately within 3 per cent of each other. A decrease of the

Table 2. Comparison of molar refractivities

Compound	Form	Density	Average* refractive index	$\frac{R_m^{**}}{(A \cdot B) X_2}$	Per cent*** difference
$\text{SiO}_2$	glass	2.203	1.458	7.45	+ 3.6
$\text{SiO}_2$	<i>l</i> -crist.	2.325	1.486	7.42	
$\text{SiO}_2$	<i>l</i> -trid.	2.262	1.470	7.41	
$\text{SiO}_2$	quartz	2.648	1.548	7.19	
$\text{SiO}_2$	coesite	2.90	1.598	7.06	- 1.8
$\text{BeF}_2$	glass	1.986	1.275	4.07	+ 1.7
$\text{BeF}_2$	quartz	2.38	1.328	4.00	
$\text{BeF}_2$	coesite	2.55	1.345	3.93	- 1.7
$\text{BPO}_4$	crist.	2.80	1.597	6.41	+ 2.6
$\text{BPO}_4$	quartz	3.07	1.642	6.24	
$\text{BAsO}_4$	crist.	3.64	1.682	7.75	+ 3.5
$\text{BAsO}_4$	quartz	4.00	1.738	7.49	
$\text{AlPO}_4$	crist.	2.285	1.465	7.36	+ 3.4
$\text{AlPO}_4$	quartz	2.62	1.526	7.12	
$\text{GaPO}_4$	crist.	3.27	1.560	8.15	+ 2.5
$\text{GaPO}_4$	quartz	3.54	1.603	7.95	
$\text{MnPO}_4$	crist.	2.87	1.482	7.56	+ 4.7
$\text{MnPO}_4$	quartz	3.20	1.528	7.22	
$\text{GeO}_2$	glass	3.628	1.6081	9.90	+ 2.8
$\text{GeO}_2$	quartz	4.228	1.707	9.63	
$\text{GeO}_2$	rutile	6.239	2.015	8.46	-12.2

Abbreviations: crist. = cristobalite, trid. = tridymite.

\* Average refractive index calculated as  $\sqrt[3]{N_3^2 N_2}$ . The comparative values of  $R_m$ , in general, are not sensitive to manner of calculating the average refractive index.

\*\*  $\frac{R_m}{(A \cdot B) X_2}$  equals the  $R_m$  of  $\text{AX}_2$  or  $1/2$  of  $\text{ABX}_4$  compounds.  $R_m$  normally reported in  $\text{cm}^3$  per mole.

\*\*\* Percentage difference relative to the  $R_m$  value of the quartz polymorph of each series.

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