PG No. 8 D_{2h} mmm [orthorhombic]

* character table

D_{2h}	$1(1)$	$2_{001}(1)$	$2_{010}(1)$	$2_{100}(1)$	$-1(1)$	$m_{001}(1)$	$m_{010}(1)$	$m_{100}(1)$
A_g	1	1	1	1	1	1	1	1
B_{1g}	1	1	−1	−1	1	1	−1	−1
B_{2g}	1	−1	1	−1	1	−1	1	−1
B_{3g}	1	−1	−1	1	1	−1	−1	1
A_u	1	1	1	1	−1	−1	−1	−1
B_{1u}	1	1	−1	−1	−1	−1	1	1
B_{2u}	1	−1	1	−1	−1	1	−1	1
B_{3u}	1	−1	−1	1	−1	1	1	−1

* polar ↔ axial conversion

A_g (A_u)　B_{3g} (B_{3u})　B_{2g} (B_{2u})　B_{1g} (B_{1u})　A_u (A_g)　B_{3u} (B_{3g})　B_{2u} (B_{2g})　B_{1u} (B_{1g})

* symmetric product

	A_g	B_{1g}	B_{2g}	B_{3g}	A_u	B_{1u}	B_{2u}	B_{3u}
A_g	A_g	B_{1g}	B_{2g}	B_{3g}	A_u	B_{1u}	B_{2u}	B_{3u}
B_{1g}		A_g	B_{3g}	B_{2g}	B_{1u}	A_u	B_{3u}	B_{2u}
B_{2g}			A_g	B_{1g}	B_{2u}	B_{3u}	A_u	B_{1u}
B_{3g}				A_g	B_{3u}	B_{2u}	B_{1u}	A_u
A_u					A_g	B_{1g}	B_{2g}	B_{3g}
B_{1u}						A_g	B_{3g}	B_{2g}
B_{2u}							A_g	B_{1g}
B_{3u}								A_g

* anti-symmetric product

A_g	B_{1g}	B_{2g}	B_{3g}	A_u	B_{1u}	B_{2u}	B_{3u}
–	–	–	–	–	–	–	–