PG No. 11 C_{4h} $4/m$ [tetragonal]

* character table

C_{4h}	$1(1)$	$2_{001}(1)$	$4^+_{001}(2)$	$-1(1)$	$m_{001}(1)$	$-4^+_{001}(2)$
A_g	1	1	1	1	1	1
B_g	1	1	−1	1	1	−1
E_g	2	−2	0	2	−2	0
A_u	1	1	1	−1	−1	−1
B_u	1	1	−1	−1	−1	1
E_u	2	−2	0	−2	2	0

* polar ↔ axial conversion

A_g (A_u)　B_g (B_u)　E_g (E_u)　A_u (A_g)　B_u (B_g)　E_u (E_g)

* symmetric product

	A_g	B_g	E_g	A_u	B_u	E_u
A_g	A_g	B_g	E_g	A_u	B_u	E_u
B_g		A_g	E_g	B_u	A_u	E_u
E_g			$2A_g + B_g$	E_u	E_u	$2A_u + 2B_u$
A_u				A_g	B_g	E_g
B_u					A_g	E_g
E_u						$2A_g + B_g$

* anti-symmetric product

A_g	B_g	E_g	A_u	B_u	E_u
−	−	B_g	−	−	B_g