PG No. 40 $C_{4h}(c)$ $4/m$ [tetragonal]

* character table

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

* polar ↔ axial conversion

A_g (A_u)　B_g (B_u)　$E_g^{(a)}$ ($E_u^{(a)}$)　$E_g^{(b)}$ ($E_u^{(b)}$)　A_u (A_g)　B_u (B_g)　$E_u^{(a)}$ ($E_g^{(a)}$)　$E_u^{(b)}$ ($E_g^{(b)}$)

* symmetric product

	A_g	B_g	$E_g^{(a)}$	$E_g^{(b)}$	A_u	B_u	$E_u^{(a)}$	$E_u^{(b)}$
A_g	A_g	B_g	$E_g^{(a)}$	$E_g^{(b)}$	A_u	B_u	$E_u^{(a)}$	$E_u^{(b)}$
B_g		A_g	$E_g^{(b)}$	$E_g^{(a)}$	B_u	A_u	$E_u^{(b)}$	$E_u^{(a)}$
$E_g^{(a)}$			B_g	A_g	$E_u^{(a)}$	$E_u^{(b)}$	B_u	A_u
$E_g^{(b)}$				B_g	$E_u^{(b)}$	$E_u^{(a)}$	A_u	B_u
A_u					A_g	B_g	$E_g^{(a)}$	$E_g^{(b)}$
B_u						A_g	$E_g^{(b)}$	$E_g^{(a)}$
$E_u^{(a)}$							B_g	A_g
$E_u^{(b)}$								B_g

* anti-symmetric product

A_g	B_g	$E_g^{(a)}$	$E_g^{(b)}$	A_u	B_u	$E_u^{(a)}$	$E_u^{(b)}$
–	–	–	–	–	–	–	–