

PG No. 34 $D_3(1)$ 32 (312 setting) [trigonal]

* character table

| | $D_3(1)$ | $1(1)$ | $2_{120}(3)$ | $3^+_{001}(2)$ |
|-------|----------|--------|--------------|----------------|
| A_1 | 1 | 1 | 1 | 1 |
| A_2 | 1 | -1 | -1 | 1 |
| E | 2 | 0 | -1 | |

* polar \leftrightarrow axial conversion

A_1 (A_1) A_2 (A_2) E (E)

* symmetric product

| | A_1 | A_2 | E |
|-------|-------|-------|-----------|
| A_1 | A_1 | A_2 | E |
| A_2 | | A_1 | E |
| E | | | $A_1 + E$ |

* anti-symmetric product

| | A_1 | A_2 | E |
|--|-------|-------|-------|
| | - | - | A_2 |