

PG No. 19 C_{3v} $3m$ (3m1 setting) [trigonal]

* character table

| C_{3v} | $1(1)$ | $3^+_{001}(2)$ | $m_{100}(3)$ |
|----------|--------|----------------|--------------|
| A_1 | 1 | 1 | 1 |
| A_2 | 1 | 1 | -1 |
| E | 2 | -1 | 0 |

* polar \leftrightarrow axial conversion

A_1 (A_2) A_2 (A_1) 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 |