

## 1.56: H centered cell

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The **H centered cell (triple hexagonal cell)** is an alternative description of the hexagonal [Bravais lattice](#). From the conventional *hP* cell one obtains the *hH* cell by taking the new basis vectors by means of one of the following transformation matrices, which give three possible orientations of the *hH* cell with respect to the *hP* cell:

$$H_1: 110/-120/001 \quad H_2: 2-10/110/001 \quad H_3: 1-20/2-10/001$$

The resulting *hH* cell has centering nodes at  $1/3, 2/3, 0$  and  $2/3, 1/3, 0$ .

Secondary and tertiary elements in the *hP* cell are exchanged in the *hH* cell. For example, the space-group symbol *P3m1* become *H31m* when the triple cell is used.

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