2.1. GUIDE TO THE USE OF THE SPACE-GROUP TABLES
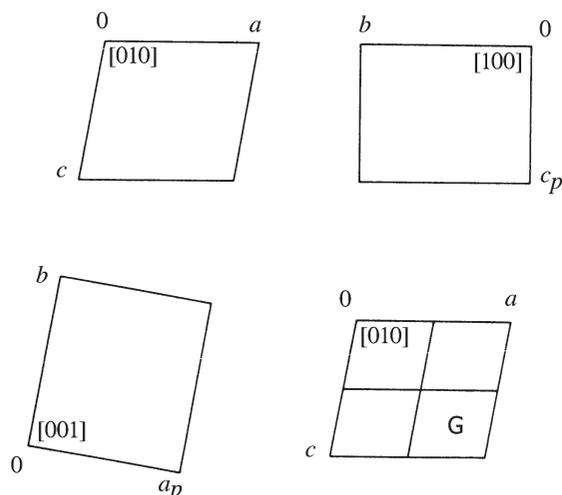

Figure 2.1.3.2
Monoclinic space groups, setting with unique axis b (G = general-position diagram).
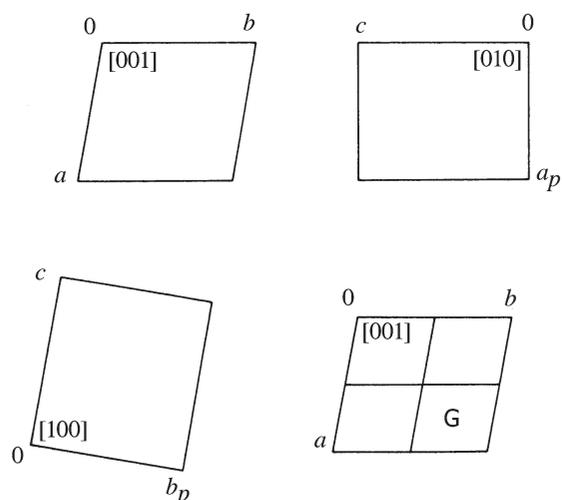

Figure 2.1.3.3
Monoclinic space groups, setting with unique axis c (G = general-position diagram).

Figure 2.1.3.4
Monoclinic space groups, cell choices 1, 2, 3. Upper pair of diagrams: setting with unique axis b. Lower pair of diagrams: setting with unique axis c. The numbers 1, 2, 3 within the cells and the subscripts of the labels of the axes indicate the cell choice (*cf.* Section 2.1.3.15). The unique axis points upwards from the page. G = general-position diagram.

2.1.3.6.4. Orthorhombic space groups and orthorhombic settings

The space-group tables contain a set of four diagrams for each orthorhombic space group. The set consists of three projections of the symmetry elements [along the c axis (upper left), the a axis (lower left) and the b axis (upper right)] in addition to the general-position diagram, which is given only in the projection along c (lower right). The projected axes, the origins and the projection directions of these diagrams are illustrated in Fig. 2.1.3.5. They refer to the so-called 'standard setting' of the space group, *i.e.* the setting described in the space-group tables and indicated by the 'standard Hermann–Mauguin symbol' in the headline.

For each orthorhombic space group, *six settings* exist, *i.e.* six different ways of assigning the labels a, b, c to the three orthorhombic symmetry directions; thus the shape and orientation of the cell are the same for each setting. These settings correspond

of type I, all angles are acute, *i.e.* $\alpha, \beta, \gamma < 90°$. For a discussion of the two types of reduced cells, see Section 3.1.3.

2.1.3.6.3. Monoclinic space groups (cf. Sections 2.1.3.2 and 2.1.3.15)

The 'complete treatment' of each of the two settings contains four diagrams (Figs. 2.1.3.2 and 2.1.3.3). Three of them are projections of the symmetry elements, taken along the unique axis (upper left) and along the other two axes (lower left and upper right). For the general position, only the projection along the unique axis is given (lower right).

The 'synoptic descriptions' of the three cell choices (for each setting) are headed by a pair of diagrams, as illustrated in Fig. 2.1.3.4. The drawings on the left display the symmetry elements and the ones on the right the general position (labelled G). Each diagram is a projection of four neighbouring unit cells along the unique axis. It contains the outlines of the three cell choices drawn as heavy lines. For the labelling of the axes, see Fig. 2.1.3.4. The headline of the description of each cell choice contains a small-scale drawing, indicating the basis vectors and the cell that apply to that description.
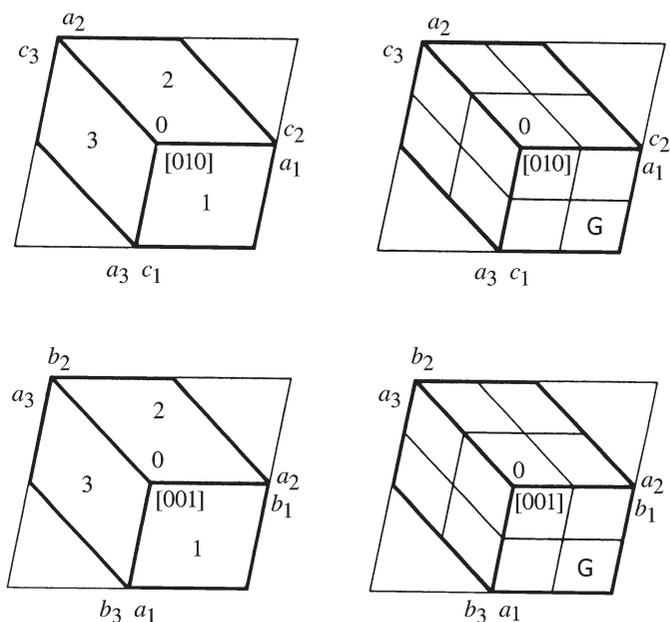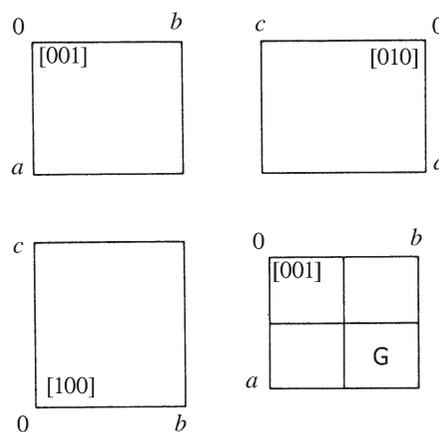

Figure 2.1.3.5
Orthorhombic space groups. Diagrams for the 'standard setting' as described in the space-group tables (G = general-position diagram).