

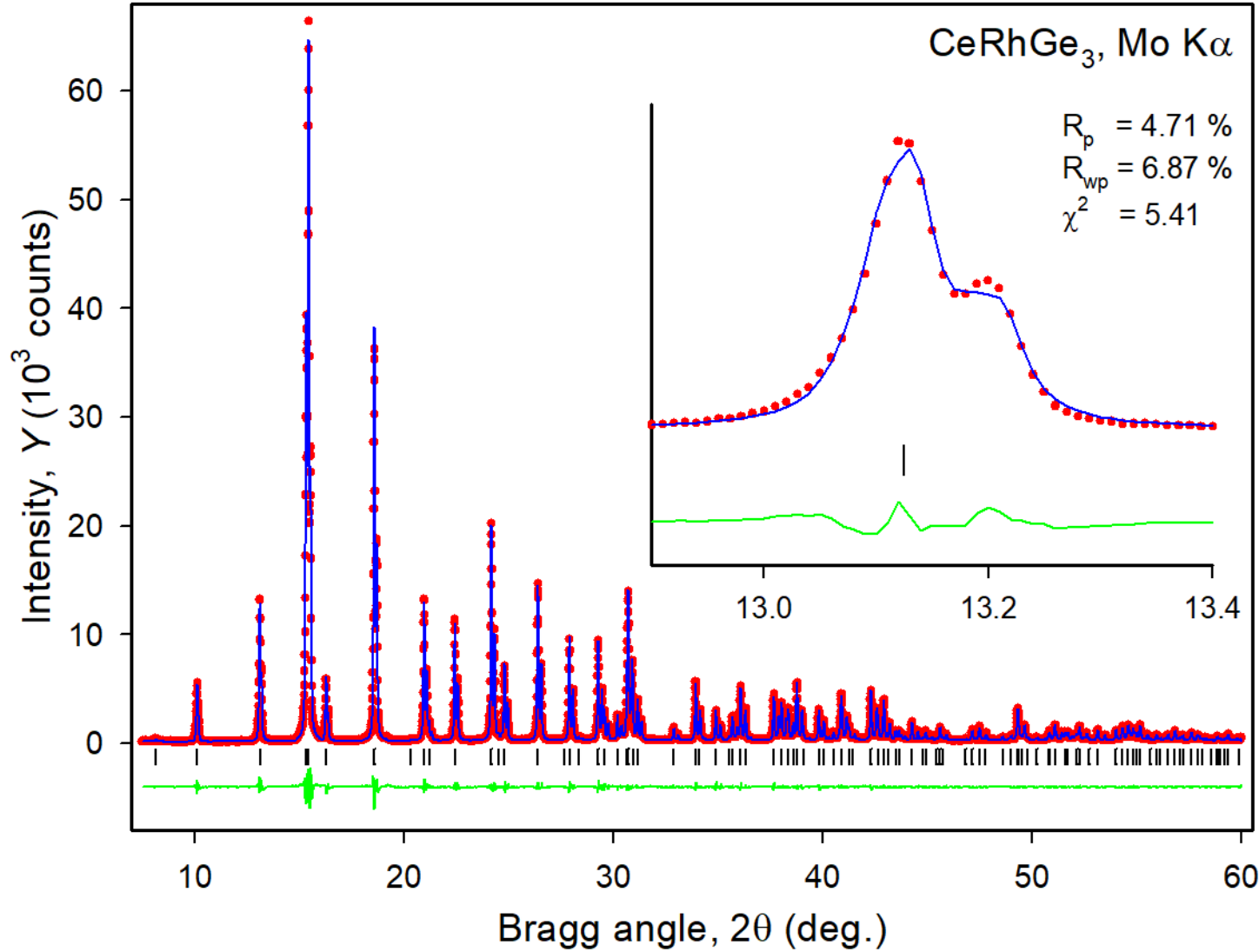
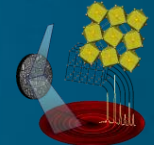


Figure 17.1. The observed and calculated powder diffraction patterns of CeRhGe₃ after all parameters were refined in the same approximation as in Chap. 16. The inset illustrates an **inadequate asymmetry approximation**.

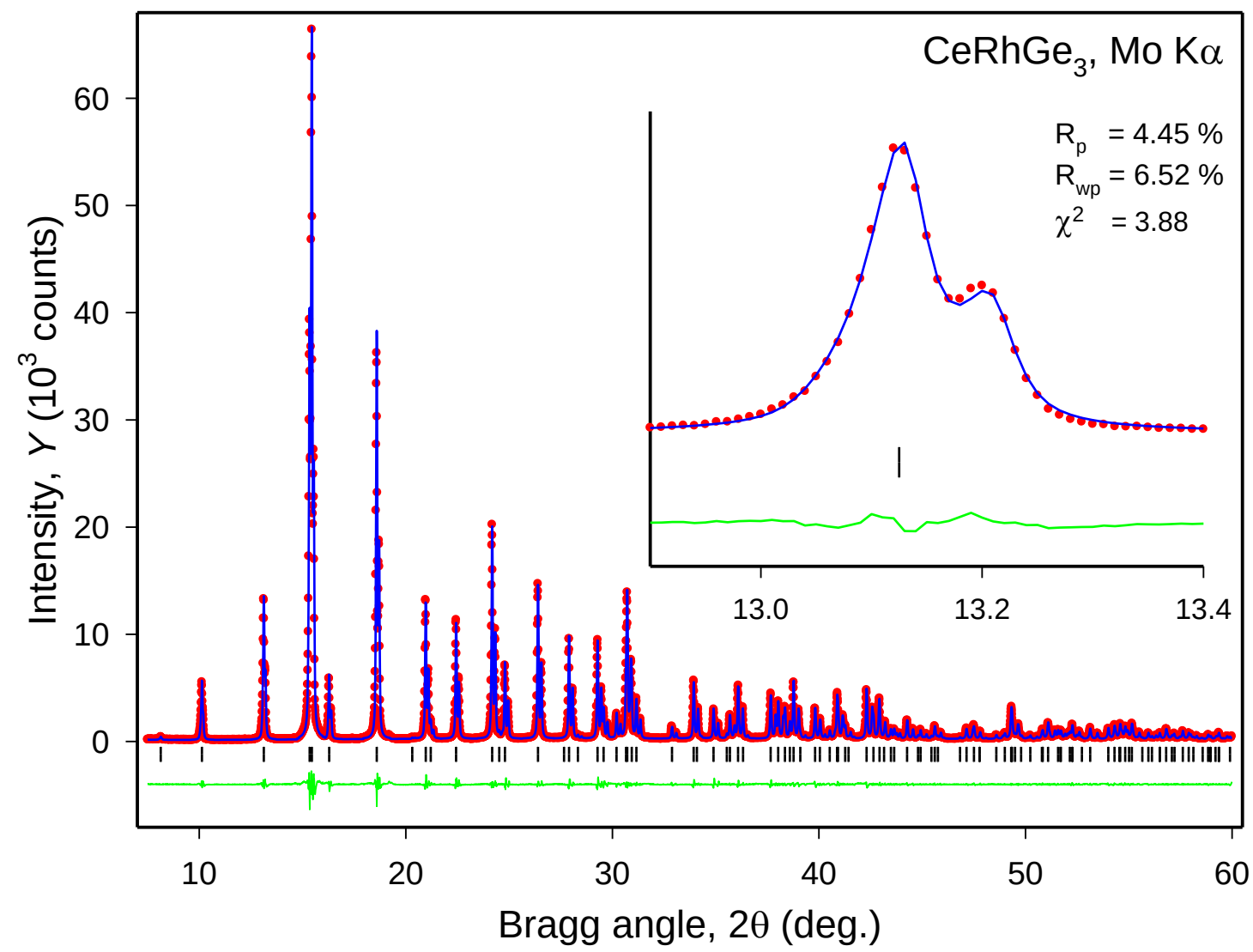
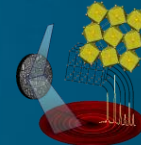


Figure 17.2. The observed and calculated powder diffraction patterns of CeRhGe₃ after refinement of all parameters with an asymmetry correction in the Finger, Cox and Jephcoat approximation. The inset illustrates an **adequately treated asymmetry** (compare with the inset in Figure 17.1).

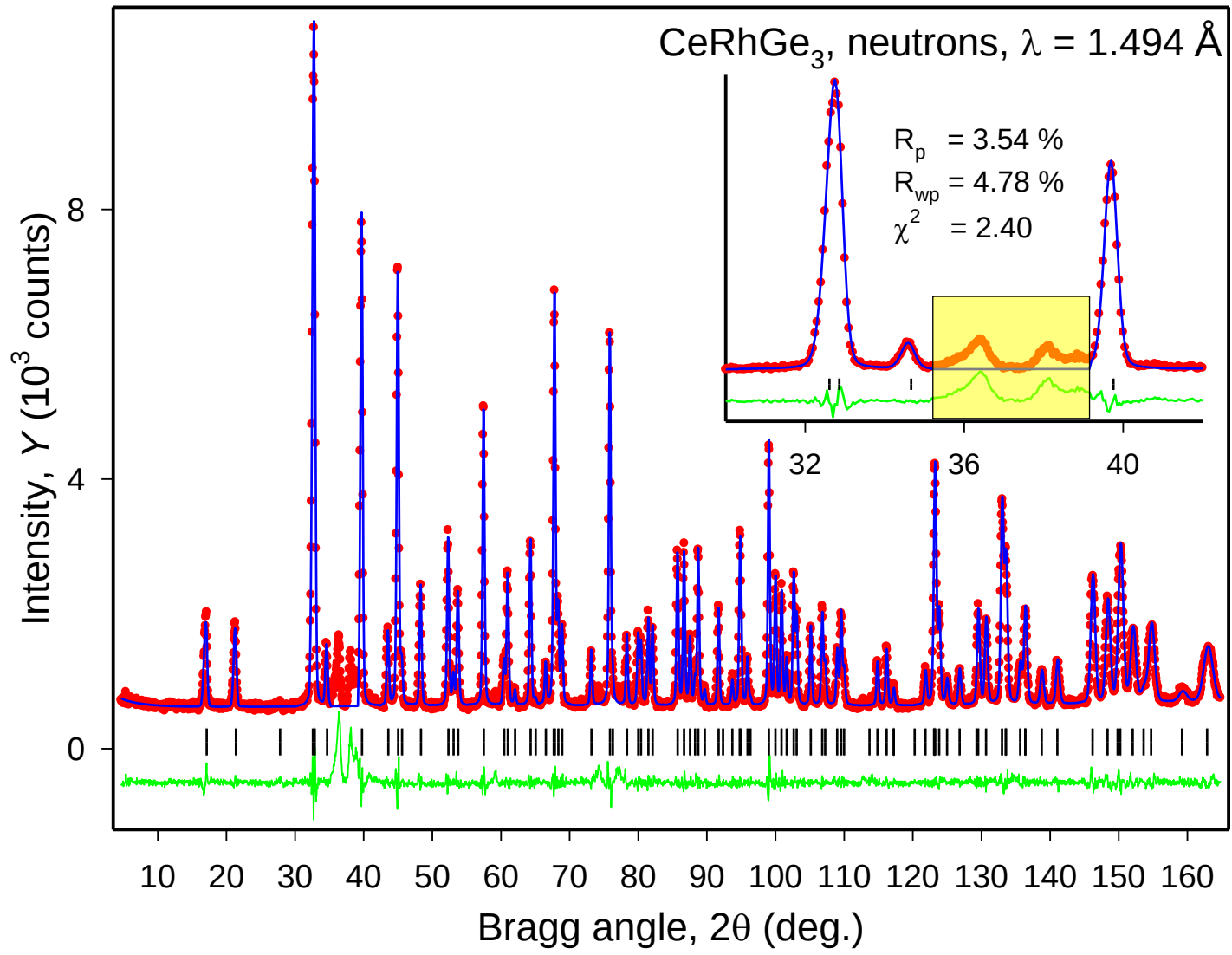
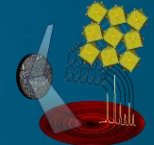


Figure 17.3. The observed and calculated powder diffraction patterns of CeRhGe₃ after refinement of all parameters. The region $35.2 < 2\theta < 39.1^\circ$ (*highlighted* in the inset) was excluded from the refinement because it contains three additional peaks due to instrumental contribution. The powder diffraction data were collected with a step 0.05° of 2θ .

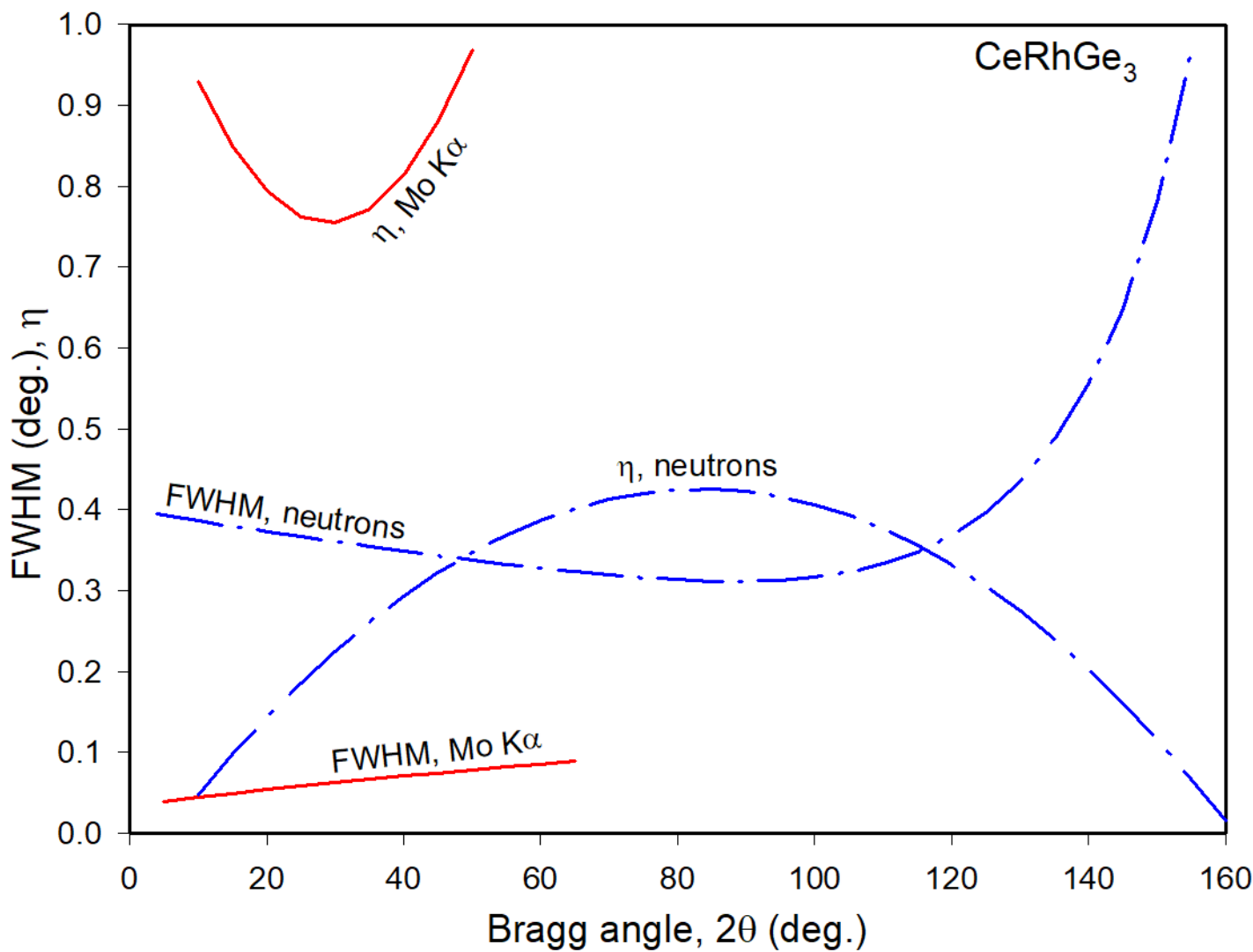
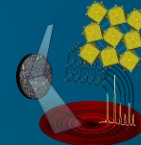


Figure 17.4. Full widths at half maximum (FWHM) and mixing parameters (η) of the pseudo-Voigt function used to approximate peak shapes in the X-ray (Figure 17.2) and neutron (Figure 17.3) powder diffraction patterns collected from the same CeRhGe₃ powder.

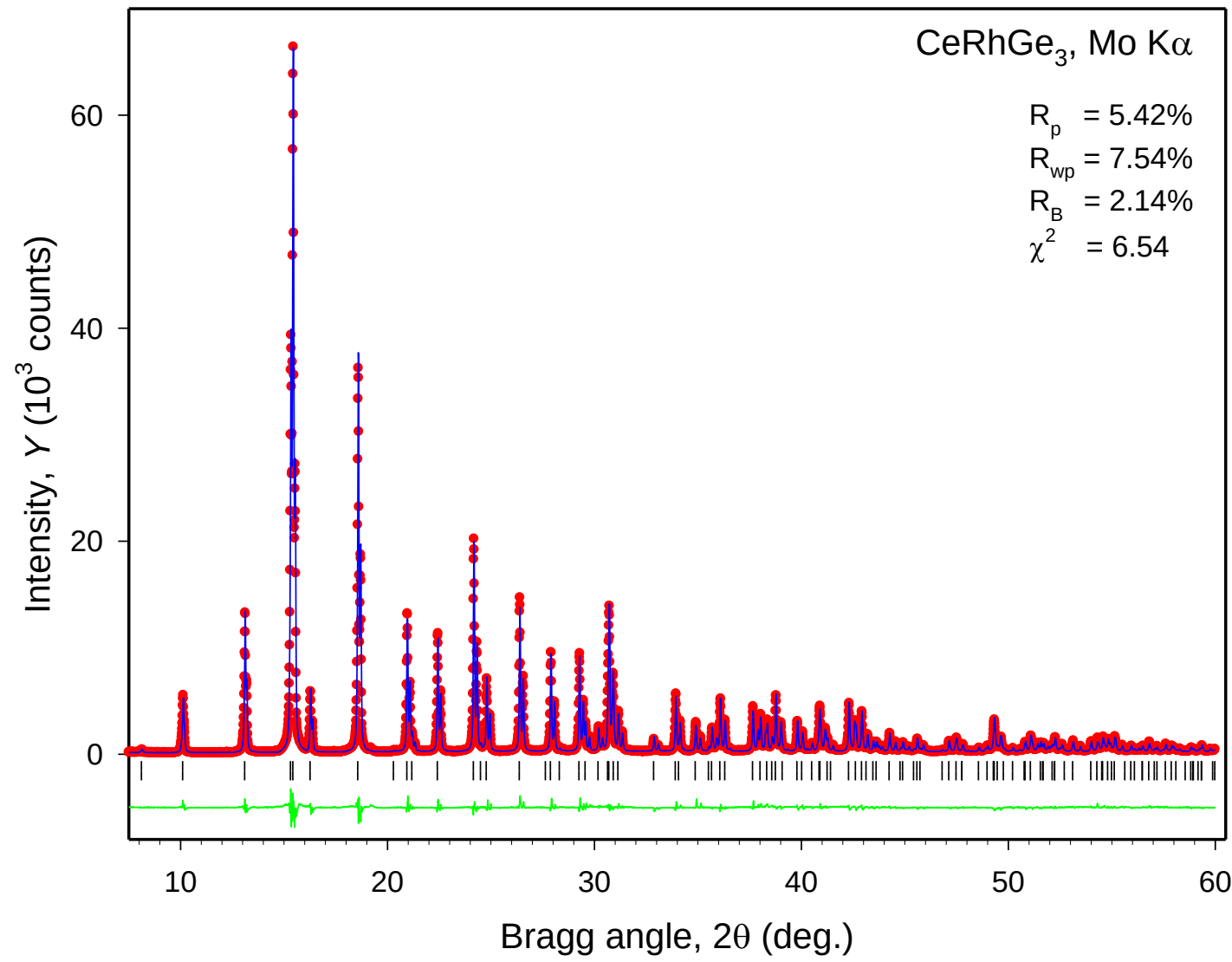
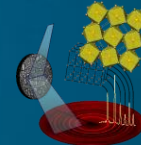


Figure 17.5. The observed and calculated powder diffraction patterns of CeRhGe₃ after the completion of Rietveld refinement. The data were collected from a ground CeRhGe₃ powder dusted on a flat sample holder using a rotating anode Rigaku TTRAX powder diffractometer in a step scan mode with a step $\Delta 2\theta = 0.01^\circ$. All notations on the plot are identical to Figure 16.2.

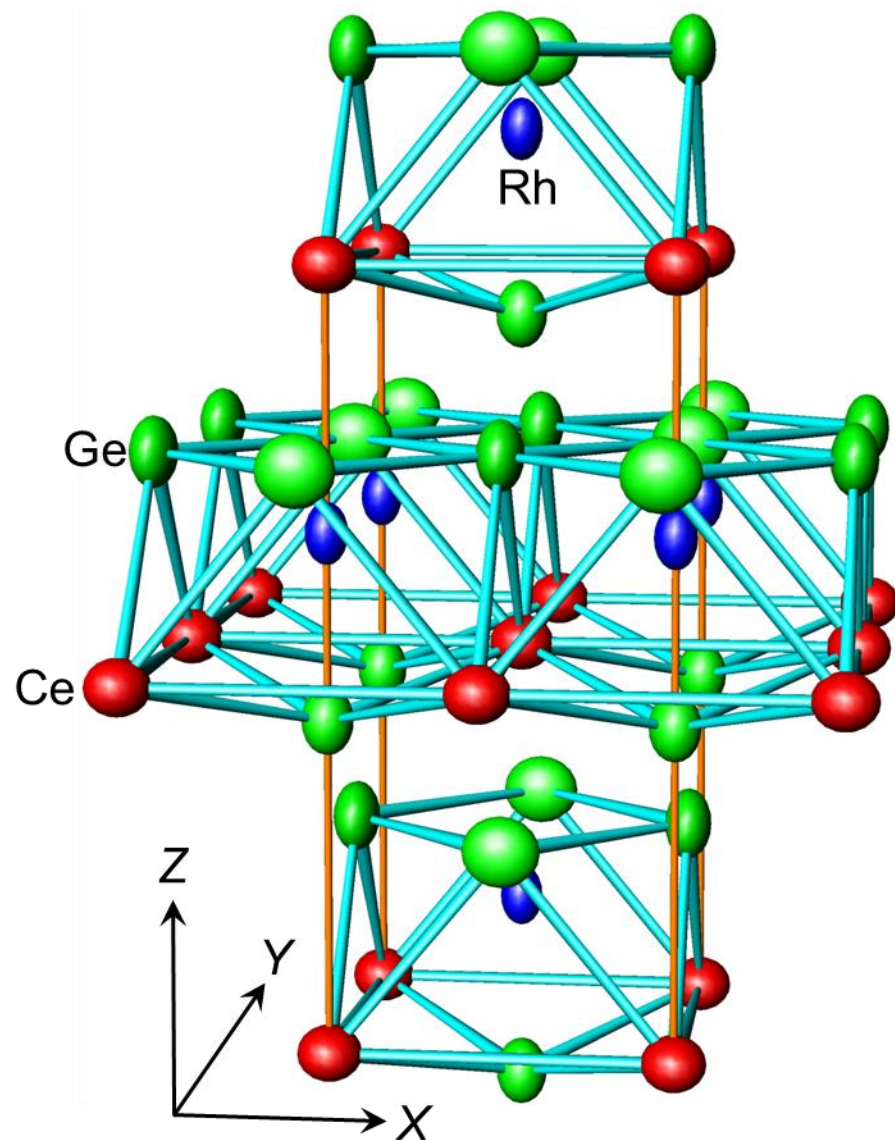
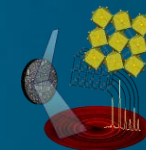


Figure 17.6. The crystal structure of CeRhGe_3 as determined from Rietveld refinement in the space group $I4mm$ (see Table 17.22 and Figure 17.5). Displacement ellipsoids are shown at 99% probability. Also, see the Footnote on page 569.

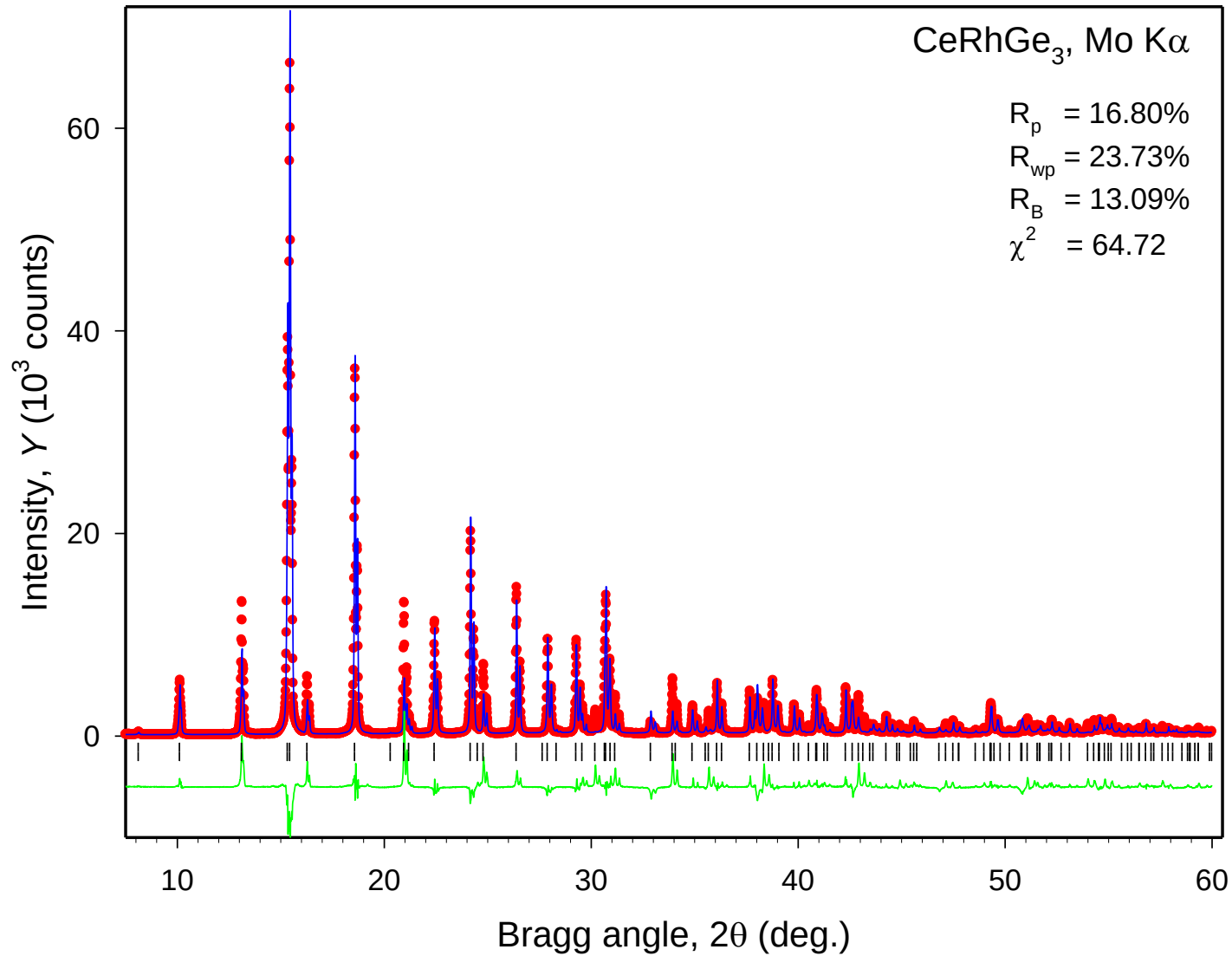
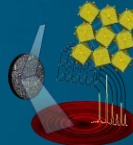


Figure 17.7. The observed and calculated powder diffraction patterns of CeRhGe₃ after Rietveld refinement of the model in the space group I4/mmm. Compare with Figure 17.5.

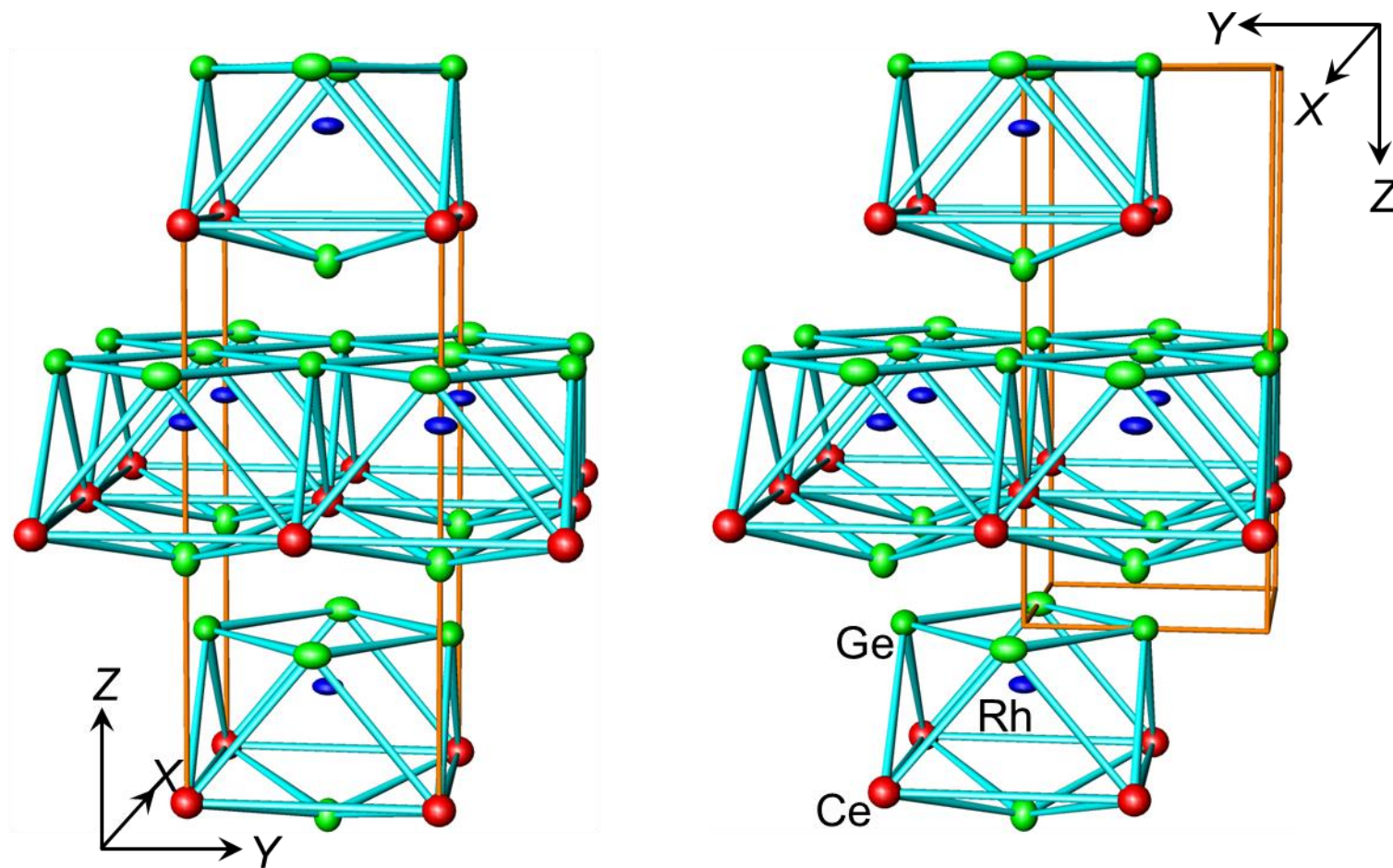
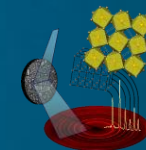


Figure 17.8. The two models of the crystal structure of CeRhGe_3 refined using neutron powder diffraction data collected at $T = 200$ K. The thermal displacement ellipsoids are shown at 99% probability. The models are identical except for the inversion of the coordinate system and differently chosen origin of the unit cell.

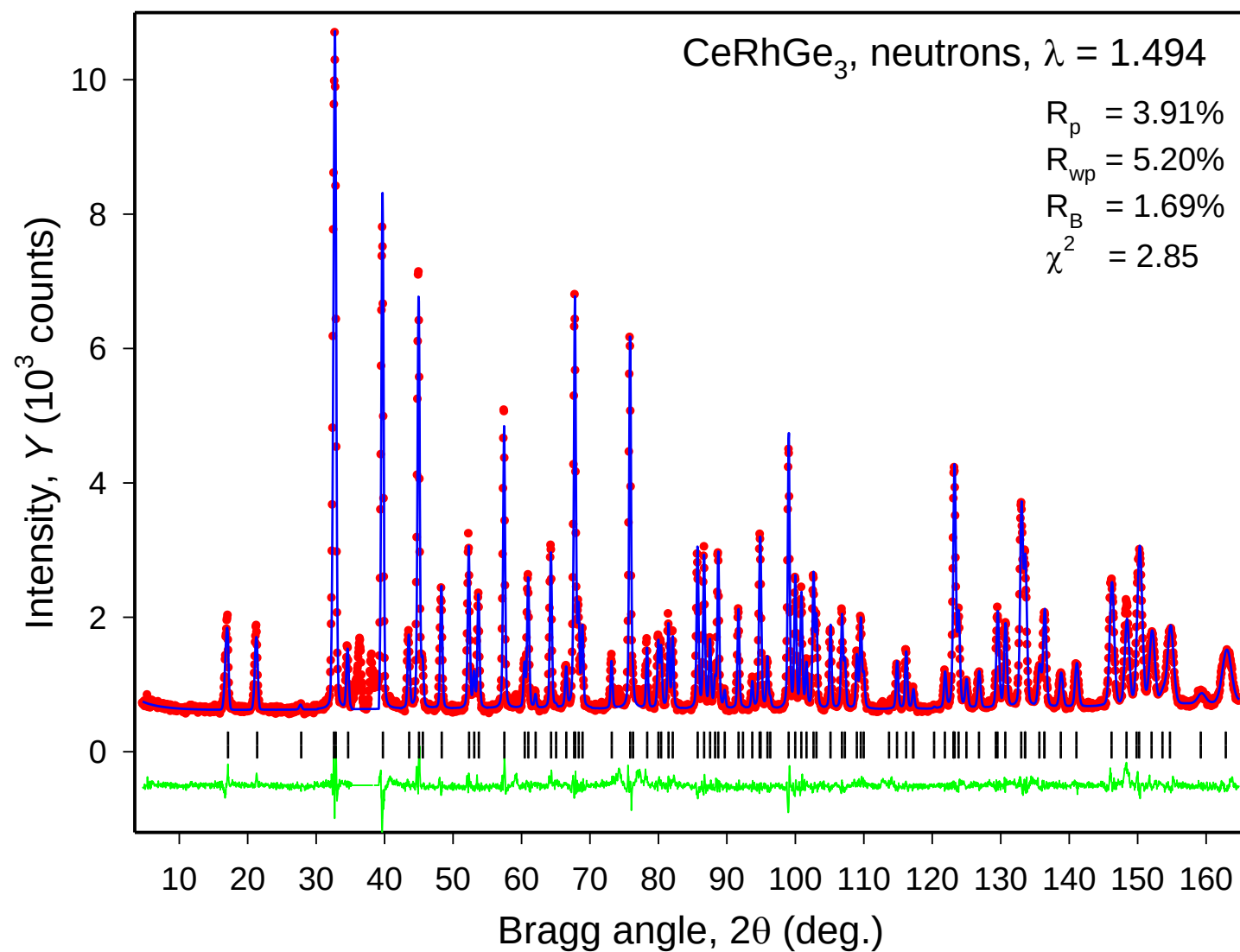
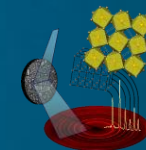


Figure 17.9. The observed and calculated neutron powder diffraction patterns of CeRhGe_3 after the completion of Rietveld refinement. The region $35.2 < 2\theta < 39.1^\circ$ was excluded from the refinement.