

"Poor-men" High Pressure Cell for Single Crystal X-ray Crystallography

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A simple "moderate-high" pressure cell for single crystal X-ray crystallography at the pressure up to 1KBar has been developed. The simple design provides good visibility of the crystal during the data collection, straightforward optical alignment, easily controllable pressure, no blind areas for X-rays and simple loading procedure. The cell can be used for studying crystals under gas as well as hydrostatic pressure. The crystal is placed in the quartz capillary, connected by a quartz-metal seal to the specially modified high pressure valve. A special attachment for the cell mounting on a goniometer of Bruker CCD diffractometer has been designed and unusual data collection procedure has been developed. Our experience in operating the cell, potential pitfalls and possible future applications of the new cell and data collection mode will be described. The cell has been tested with several molecular organic crystals and the results of the tests will be presented.

Keywords: high-pressure crystallography, data collection method, pressure cell