## Idrialite $C_{22}H_{14}$



**Crystal Data:** Orthorhombic. *Point Group:* n.d. Small irregular square or six-sided crystals; tabular crystals are precipitated from a chloroform extraction of cinnabar ore.

**Physical Properties:** *Cleavage:* {001}, perfect; {100}, poor. *Fracture:* Conchoidal. Hardness = 1–1.5 D(meas.) = 1.22–1.236 D(calc.) = 1.286 M.P. 319 °C; fluoresces pale blue under UV.

**Optical Properties:** Semitransparent. *Color:* Pale brown to pale greenish yellow. *Luster:* Vitreous to adamantine.
*Optical Class:* Biaxial (+). *Pleochroism:* $X$ = pale yellow; $Y = Z$ = yellow. *Orientation:* $X = b$; $Y = a$, $Z = c$. *Dispersion:* $r > v$, weak. $\alpha = 1.557$ $\beta = 1.734$ $\gamma = 2.07$ 2V(meas.) = 84°

**Cell Data:** *Space Group:* n.d. $a = 8.07$ $b = 6.42$ $c = 27.75$ Z = 4

**X-ray Powder Pattern:** Idrija mine, Slovenia.
4.94 (100), 3.40 (80), 4.04 (60), 2.48 (30), 7.08 (20), 4.43 (20), 2.06 (20)

**Chemistry:** (1) Identification depends on correspondence of X-ray powder patterns and other data with that of synthetic material (dimethylbenzphenanthrene).

**Occurrence:** Probably formed by pyrolysis of organic material near hot springs or by hydrothermal fluids.

**Association:** Cinnabar, pyrite, gypsum, quartz, "clay" (Idrija mine, Slovenia); metacinnabar, realgar, "opal" (Skaggs Springs, California, USA).

**Distribution:** From the Idrija (Idria) mercury mine, 38 km west of Ljubljana, northwestern Slovenia. In the USA, in California, at Skaggs Springs, Sonoma Co.; from the Great Western, Mirabel, Helen, and Research mines, Lake Co.; in the Knoxville mine, Napa Co.

**Name:** For the Idrija (Idria) mine, Slovenia, from which the first specimens were collected.

**Type Material:** n.d.

**References:** (1) Dana, E.S. (1892) Dana's system of mineralogy, (6th edition), 1013. (2) Strunz, H. and B. Contag (1965) Evenkit, Flagstaffit, Idrialin und Reficit. Neues Jahrb. Mineral., Monatsh., 19–25 (in German). (3) Blumer, M. (1975) Curtisite, idrialite, and pendletonite, polycyclic aromatic hydrocarbon minerals: their composition and origin. Chem. Geol., 16, 245–256.