Rodolicoite Fe$^{3+}$PO$_4$

Crystal Data: Hexagonal. Point Group: 32. In microcrystalline nodules, intimately mixed with grattarolaite, as crystallites to $<1000$ Å.


Cell Data: Space Group: $P3_121$ (synthetic). $a = 5.048(3) \ c = 11.215(8) \ Z = 3$

X-ray Powder Pattern: Synthetic. 3.445 (100), 4.360 (19), 2.362 (14), 1.8846 (12), 2.180 (10), 1.4214 (10)

Chemistry: (1) Due to the tiny particle sizes (average about 260 Å) only bulk composition of the mixture could be determined; this is compatible with a composition of Fe$_{1.04}$P$_{0.96}$O$_{4.00}$; the identity of the mineral rests also on its X-ray powder pattern compared to synthetic material.

Occurrence: Very rare, in microcrystalline nodules in lignite beds which appear to have naturally burned.

Association: Grattarolaite, heterosite.

Distribution: From the Castelnovo mine, Santa Barbara lignite district, 30 km southeast of Florence, Florence, Italy.

Name: Honoring Francesco Rodolico (1905–1988), Professor of Mineralogy, Florence University, Florence, Italy.

Type Material: Museum of Natural History, Florence University, Florence, Italy, 2087/RI.