Deltalumite \((\text{Al}_{0.67} \square 0.33)\text{Al}_2\text{O}_4\)

**Crystal Data:** Tetragonal. *Point Group:* \(4 \bar{2} m\). Forms roundish aggregates to 0.2 mm consisting of blocky prismatic crystals to 0.03 mm.

D(meas.) = n.d. D(calc.) = 3.663

**Cell Data:** Space Group: \(P\bar{4} \text{m}2\) (by analogy to synthetic \(\delta\)-\(\text{Al}_2\text{O}_3\)). \(a = 5.608(1)\) \(c = 23.513(7)\) 
Z = 16

**X-Ray Diffraction Pattern:** Ploskiy Tolbachik volcano, Kamchatka peninsula, Russia. 
1.396 (100), 1.993 (81), 2.728 (61), 2.424 (51), 2.408 (49), 1.954 (48), 2.281 (42)

**Chemistry:**

\[
\begin{array}{|c|c|}
\hline
\text{Component} & \text{Empirical} \\
\hline
\text{Al}_2\text{O}_3 & 99.74 \\
\text{SiO}_2 & 0.04 \\
\text{Total} & 99.78 \\
\hline
\end{array}
\]

(1) Ploskiy Tolbachik volcano, Kamchatka peninsula, Far-Eastern Region, Russia; average electron microprobe analysis; corresponding to \((\text{Al}_{0.67} \square 0.33)\text{Al}_2\text{O}_4\).

**Polymorphism & Series:** A dimorph of corundum.

**Mineral Group:** Spinel supergroup, oxyzispinel group, spinel subgroup.

**Occurrence:** In pores of basaltic rock and scoria altered by volcanic fumarolic gas.

**Association:** n.d.

**Distribution:** Near Ploskiy Tolbachik volcano, Kamchatka peninsula, Far-Eastern Region, Russia.

**Name:** From the name of the synthetic compound \(\delta\)-\(\text{Al}_2\text{O}_3\).

**Type Material:** A.E. Fersman Mineralogical Museum, RAS, Moscow, Russia (4767/1).