

**Crystal Data:** Hexagonal. *Point Group:* 6/m 2/m 2/m. As prismatic crystals, less than 1  $\mu\text{m}$ .

**Physical Properties:** *Cleavage:* n.d. *Fracture:* n.d. *Tenacity:* n.d. *Hardness = n.d.*  
D(meas.) = n.d. D(calc.) = n.d.

**Optical Properties:** n.d. *Color:* n.d. *Streak:* n.d. *Luster:* n.d.  
*Optical Class:* n.d.

**Cell Data:** *Space Group:* P6<sub>3</sub>/mmc.  $a = 5.403(2)$   $c = 12.77(3)$   $Z = 2$

**X-ray Powder Pattern:** Synchrotron diffraction pattern.  
2.050 (100), 1.575 (67), 2.638 (49), 1.351 (44), 2.701 (29), 1.547 (22), 2.488 (20)

<b>Chemistry:</b>	(1)	(2)
SiO <sub>2</sub>	56.95	56.22
Al <sub>2</sub> O <sub>3</sub>	28.27	27.26
CaO	9.96	10.71
Na <sub>2</sub> O	2.67	2.49
FeO	1.01	1.64
K <sub>2</sub> O	0.44	0.39
MgO	0.06	0.24
TiO <sub>2</sub>	0.05	0.08
<u>MnO</u>	<u>0.03</u>	<u>0.08</u>
Total	99.45	99.10

(1) Zagami meteorite; average of 6 electron microprobe analyses; corresponds to (Ca<sub>0.66</sub>Na<sub>0.32</sub>K<sub>0.03</sub>) $\Sigma=1.01$ (Al<sub>1.94</sub>Fe<sub>0.05</sub>Mg<sub>0.01</sub>) $\Sigma=2.00$ (Si<sub>3.51</sub>Al<sub>0.11</sub>) $\Sigma=3.62$ O<sub>11</sub>.

(2) NWA 856 meteorite; average of 8 electron microprobe analyses; corresponds to (Ca<sub>0.71</sub>Na<sub>0.30</sub>K<sub>0.03</sub>) $\Sigma=1.04$ (Al<sub>1.89</sub>Fe<sub>0.09</sub>Mg<sub>0.02</sub>) $\Sigma=2.00$ (Si<sub>3.50</sub>Al<sub>0.11</sub>) $\Sigma=3.61$ O<sub>11</sub>.

**Occurrence:** In shock-melt veinlets and pockets in basaltic shergottite meteorites.

**Association:** Augite or pigeonite, plagioclase glass *maskelynite*, ilmenite, titanomagnetite, baddeleyite, merrillite, apatite, Fe sulfide, liebermannite, lingunite, stishovite, stishovite.

**Distribution:** From the Zagami meteorite (fell at Zagami, Katsina Province, Nigeria); NWA 856 meteorite (fell in Morocco), and the Tissint meteorite (fell in Tata Province, Morocco).

**Name:** For *Zagami*, Nigeria, where the Zagami meteorite fell.

**Type Material:** National Museum of Natural History, Washington D.C. (USNM 7619 Zagami), and the E. Stolper's Martian Meteorite Collection, Division of Geological and Planetary Sciences, California Institute of Technology, Pasadena, California (NWA 856), USA.

**References:** (1) Ma, C., O. Tschauer, and J.R. Beckett (2019) A closer look at Martian meteorites: discovery of the new mineral zagamiite, CaAl<sub>2</sub>Si<sub>3.5</sub>O<sub>11</sub>, a shock-metamorphic, high-pressure, calcium aluminosilicate. Ninth International Conference on Mars 2019 (LPI Contribution No. 2089), 6138.pdf. (2) (2020) Amer. Mineral., 105, 1925 (abs. ref. 1).