Junitoite  
\( \text{CaZn}_2\text{Si}_2\text{O}_7\cdot\text{H}_2\text{O} \)

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**Crystal Data:**  Orthorhombic.  **Point Group:** \( \text{mm2} \).  Only as crystals, to 5 mm, with excellent faces and good evidence of hemihedrism; as sprays of individuals.

**Physical Properties:**  **Cleavage:** Good on \{100\}; poor on \{010\} and \{011\}.  **Tenacity:** Brittle to semi-septile as a result of alteration.  **Hardness:** = 4.5  \( \text{D(meas.)} = 3.5(1) \)  \( \text{D(calc.)} = 3.516 \)

**Optical Properties:**  **Color:** Colorless, milk-white, or colored in various tints as a result of alteration.  **Luster:** Vitreous.

**Cell Data:**  **Space Group:** \( \text{Ama2} \).  \( \text{a} = 12.510(7) \)  \( \text{b} = 6.318(3) \)  \( \text{c} = 8.561(6) \)  \( Z = 4 \)

**Chemistry:**  
| \( \text{SiO}_2 \) | (1) 31.0 | (2) 33.65 |
| \( \text{ZnO} \) | 44.8 | 45.59 |
| \( \text{CaO} \) | 15.5 | 15.71 |
| \( \text{H}_2\text{O} \) | 5.8 | 5.05 |
| **Total** | 97.1 | 100.00 |

(1) Christmas, Arizona, USA.  (2) \( \text{CaZn}_2\text{Si}_2\text{O}_7\cdot\text{H}_2\text{O} \).

**Occurrence:**  In a retrogressively altered tactite zone, closely related to the breakdown of sphalerite in the ores.

**Association:**  Kinoite, apophyllite, calcite, xonotlite, smectite.

**Distribution:**  In the USA, from the Christmas copper mine, Gila Co., Arizona.

**Name:**  For Dr. Jun Ito (1926–1978), Japanese-American mineral chemist, Harvard University, Cambridge, Massachusetts, USA.


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