Tsikourasite  \( \text{Mo}_3\text{Ni}_2\text{P}_{1+x} \) (\( x < 0.25 \))

**Crystal Data:** Cubic.  *Point Group:* \( \bar{4} \overline{3}m \).  As isolated grains to \(~80 \mu\text{m}\).

\( D(\text{meas.}) = \text{n.d.} \quad D(\text{calc.}) = 9.182\)

_Luster:_ Metallic.  
*Optical Class:* Bireflectance: None.  *Pleochroism:* None.  *Anisotropism:* None.  
R: (400) 54.6, (420) 54.9, (440) 55.2, (460) 55.5, (470) 55.7, (480) 55.8, (500) 56.1, (520) 56.4, (540) 56.7, (546) 56.8, (560) 57.0, (580) 57.3, (589) 57.5, (600) 57.6, (620) 58.0, (640) 58.3, (650) 58.5, (660) 58.6, (680) 58.9, (700) 59.2

**Cell Data:**  
Space Group: \( F4 \overline{3}m \).  
\( a = 10.8215(5) \quad Z = 16 \)

**X-ray Powder Pattern:** Calculated pattern.  
2.083 (65), 2.209 (42), 2.083 (35), 1.913 (21), 1.275 (17), 1.275 (14), 2.705 (13)

**Chemistry:**

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
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<tbody>
<tr>
<td>Ni</td>
<td>23.90</td>
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<tr>
<td>Co</td>
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<tr>
<td>Fe</td>
<td>1.18</td>
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<td>V</td>
<td>14.13</td>
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<tr>
<td>Mo</td>
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<td>64.84</td>
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<td>P</td>
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<td>8.72</td>
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<td>S</td>
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<tr>
<td>Total</td>
<td>99.60</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(1) Agios Stefanos mine, Othrys ophiolite complex, central Greece; average of 5 electron microprobe analyses supplemented by micro-Raman spectroscopy; corresponds to \( (\text{Mo}_{1.78}\text{V}_{1.07}\text{Fe}_{0.08}\text{Co}_{0.07})_{2-3.00}(\text{Ni}_{1.57}\text{Co}_{0.43})_{2-2.00}(\text{P}_{0.98}\text{S}_{0.08})_{2-1.06} \).  
(2) \( \text{Mo}_3\text{Ni}_2\text{P}_{1.25} \).

**Occurrence:** In a heavy mineral concentrate separated from podiform chromitite hosted in strongly serpentinized dunite from a mantle tectonite composed of harzburgite and minor intercalations of plagioclase-bearing lherzolite.

**Association:** Grammatikopoulosite, nickelphosphide, awaruite.

**Distribution:** From the Agios Stefanos mine, \(~10\) km south of Domokos, Othrys ophiolite complex, central Greece.

**Name:** Honors Basilios Tsikouras (b. 1965), associate professor, Faculty of Science, Physical and Geological Sciences, Universiti Brunei Darussalam, for his contributions to the ore mineralogy and mineral deposits related to ophiolites.

**Type Material:** Natural History Museum, University of Florence, Italy (3296/I).

**References:**  
(2) (2020) Amer. Mineral., 105(10), 1600-1601 (abs. ref. 1).