

Technical Data Sheet

ACS Material Violet Phosphorus Crystal/Powder

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1. Introduction

Violet phosphorus has both high carrier mobility and anisotropy, and has the characteristics of broad-band gap, stability and easy stripping. Compared with black phosphorus, violet phosphorus is more promising in photons, electronics and semiconductors.

2. Characterizations

Product name	Violet Phosphorus Crystal	Violet Phosphorus Powder
Appearance	Crystal with metallic luster	Violet Phosphorus powders were ground by crystal, showing purple-red or red-brown flakes or powder crystals with metallic luster.
Package	Quartz tubes full of inert gas	
Purity	>99wt% (EDS)	

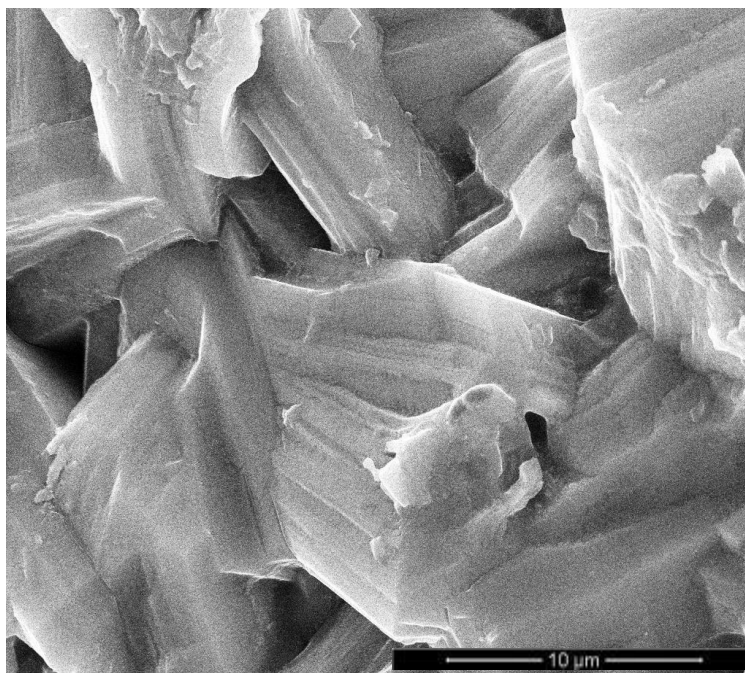


Fig.1 SEM images of Violet Phosphorus Crystal

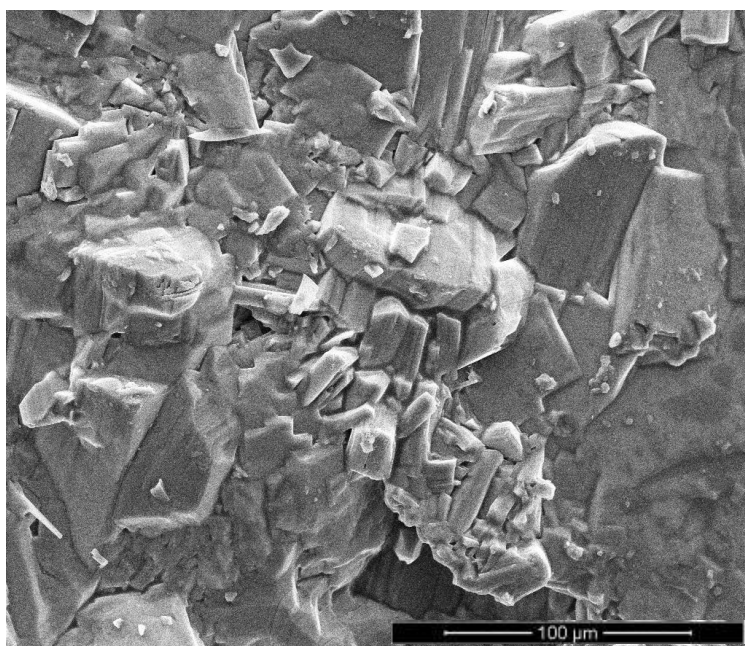


Fig.2 SEM images of Violet Phosphorus Crystal

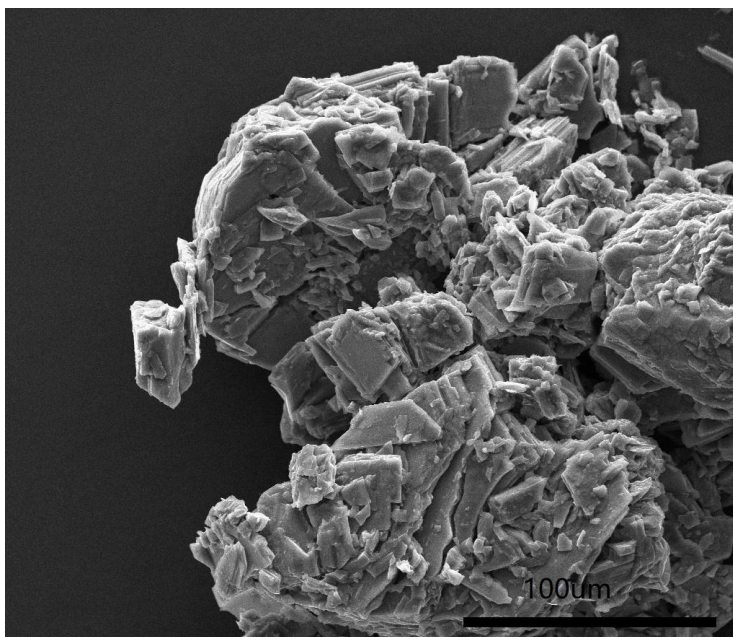


Fig.3 SEM images of Violet Phosphorus Powder

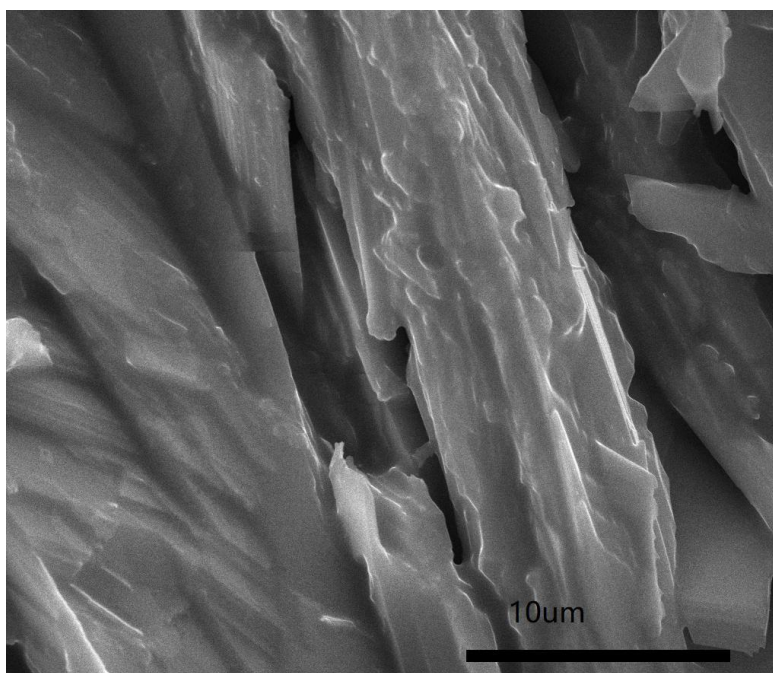


Fig.4 SEM images of Violet Phosphorus Powder

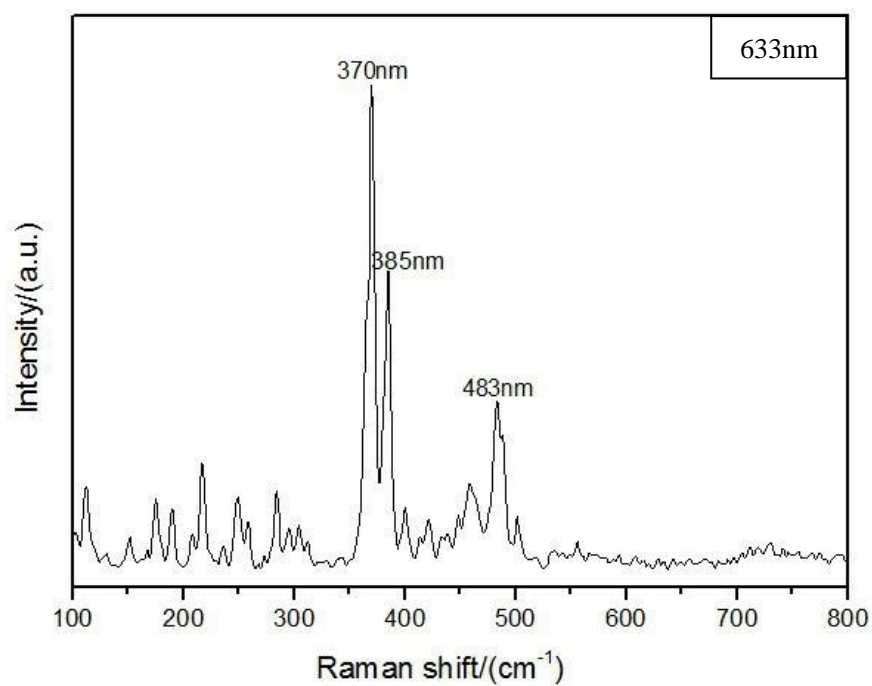


Fig.5 Raman spectrum of Violet Phosphorus Crystal

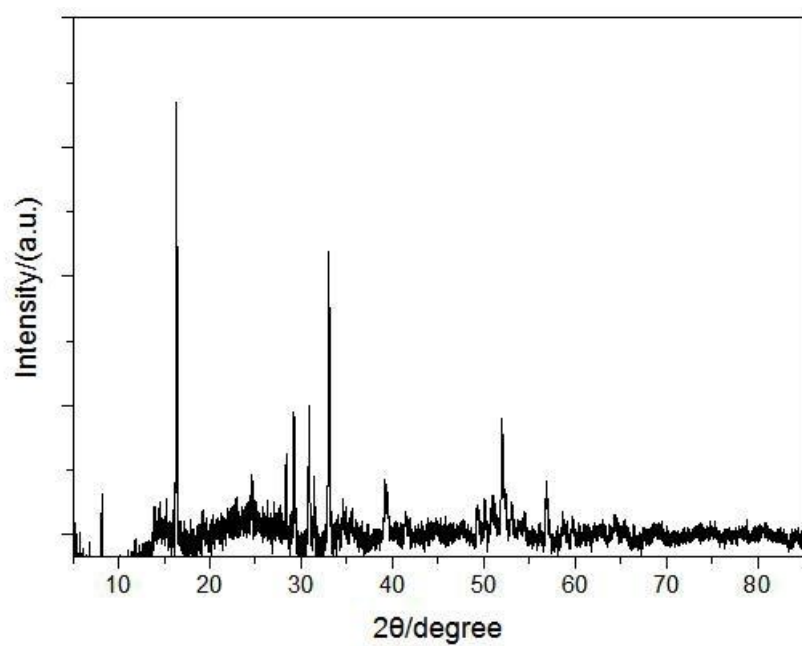


Fig.6 XRD spectrum of Violet Phosphorus Powder

Table 1 Element analysis of $\text{Ti}_3\text{C}_2\text{T}_x$ (EDS)

(Element)	(Wt %)	(At %)
P K	99.34	99.83
Sn L	0.38	0.10
I L	0.28	0.07

Note: This is a single measurement data, allowing floating between different batches.

3. Applications

Photons, electronics and semiconductors applications, *etc.*

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