SEM - Tescan Mira3 IV

Date: 2020-01-22
Tags: *SEM PSD TescanSC 14/01/2020Synth*
Created by: James Bird

Goal : Optimise imaging conditions to obtain SE micrographs from which Ti_3C_2 **particle-size distributions (PSDs) can be obtained**

Procedure :

- Samples (see [Experiment] SEM stub preparation for PSD V) loaded into SEM chamber and vacuum acquired
- 10 kV accelerating voltage set for electron beam
- WD at 5 mm (analytical working distance (AWD) is 15 mm)
- In-beam secondary electron (SE) detector employed
- Two frames accumulated per micrograph, with image resolution 1024x1024 px
- Spot size of 3.8 nm and beam intensity set at 10 a.u.

Results :

Sample	Filename prefix
5.5 x 10^{-3} wt% dropcast suspension from 14/01/2020 synthesis	KaiKai

Much improved imaging conditions using a mid-range accelerating voltage, short working distance and in-beam secondary electron detector. Better compehrension of brightness and contrast enhancement. Lower, ~ 10^{-3} wt% concentration air-dried dropcast sample gives improved particle dispersion on substrate. PSD production possible with these images.

.tif files are micrographs, .hdr files are complementary data files for each micrograph.

Attached files

KaiKai-Ti3C214-tif.hdr
sha256: 4d8a6850abd887c77cae008cf4f33a1ccd95fad272e3f5f9b9c14c5de5413ecf

KaiKai-Ti3C214.tif
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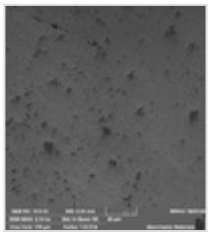

KaiKai-Ti3C215-tif.hdr
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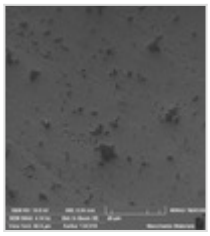

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KaiKai-Ti3C216.tif
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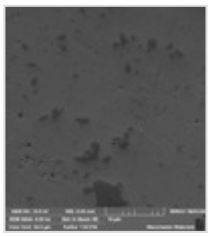

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KaiKai-Ti3C217.tif
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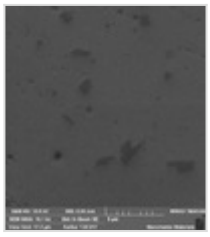

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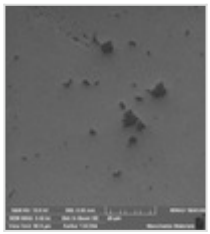

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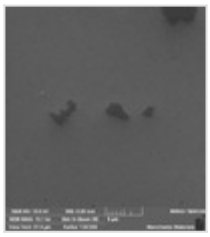

KaiKai-Ti3C201-tif.hdr
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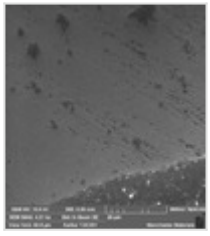

KaiKai-Ti3C202-tif.hdr
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KaiKai-Ti3C202.tif
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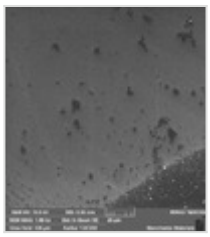

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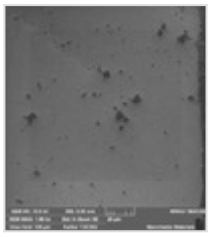

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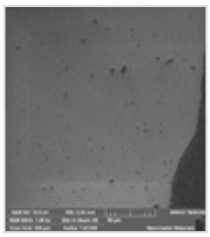

KaiKai-Ti3C207-tif.hdr

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KaiKai-Ti3C207.tif
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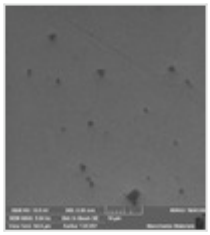

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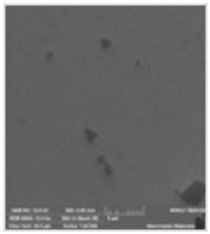

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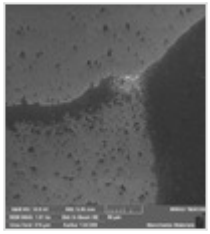

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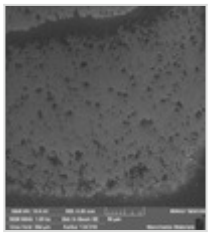

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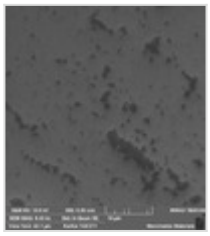

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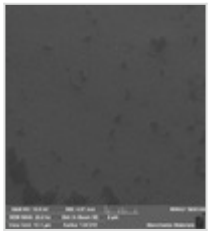

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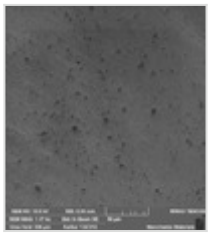

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