Supplementary materials

Stability of manganese(II) phthalocyanine films in ambient air

P.A. Yunin, Y.I. Sachkov, V.V. Travkin, G.L. Pakhomov

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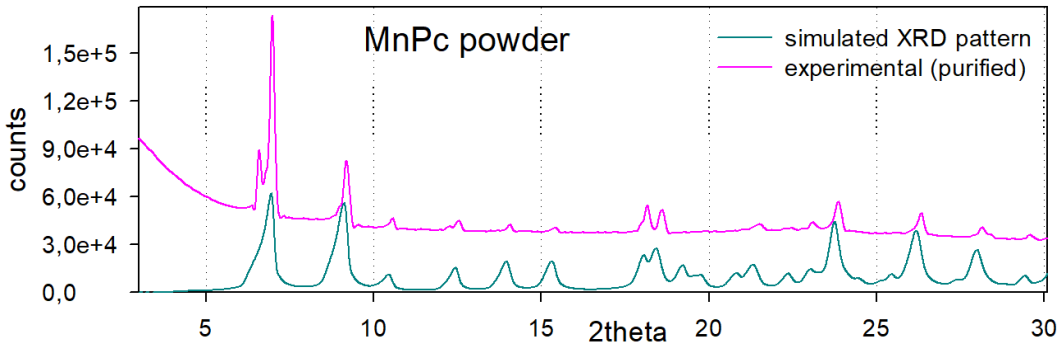
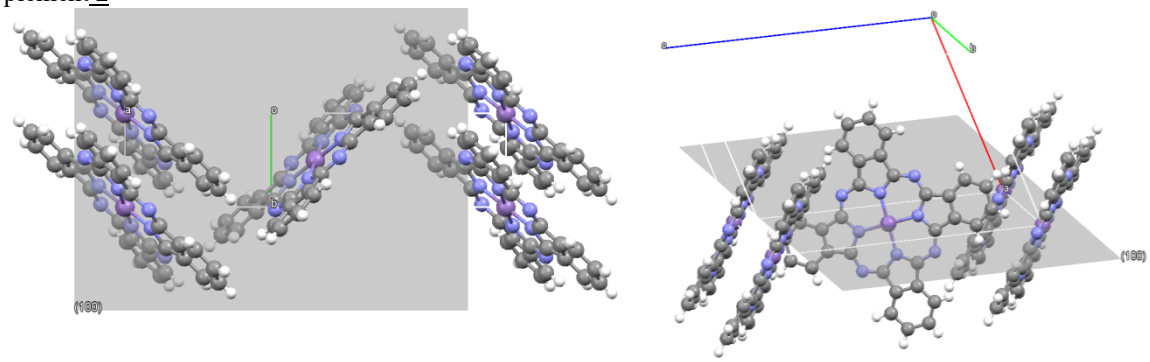
Supplement 1



Comparison of the experimental XRD spectrum (purified PcMn powder in Fig. 2) and the spectrum calculated using the CIF file CCDC#1212698 [18].

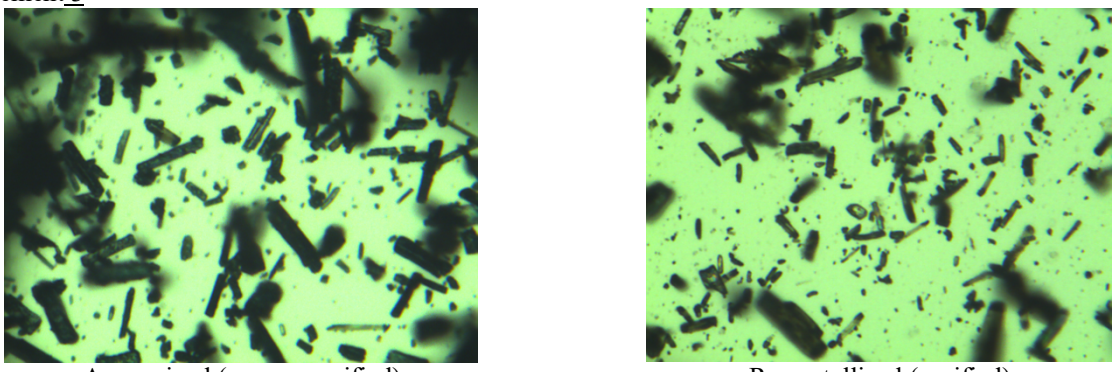
Supplement 2



Top view | Isometric view

Views of the packing of molecules in a β-PcMn film textured by the (100) plane oriented parallel to the silicon substrate (marked in gray)

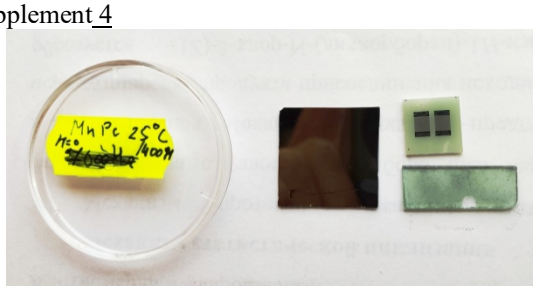
Supplement 3



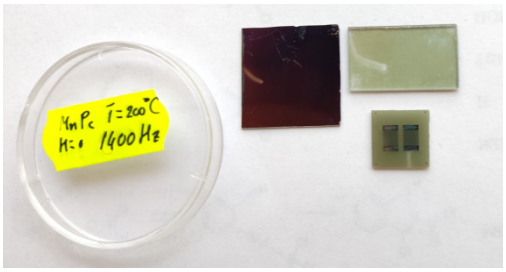
As-received (raw, unpurified) | Recrystallized (purified)

Photographs of MnPc powder in an optical microscope (200× magnification)

Supplement 4



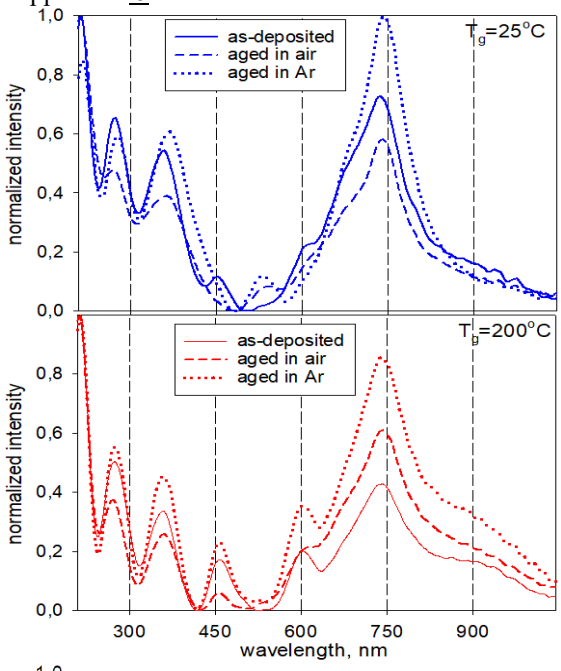
T_g=25°C



T_g=200°C

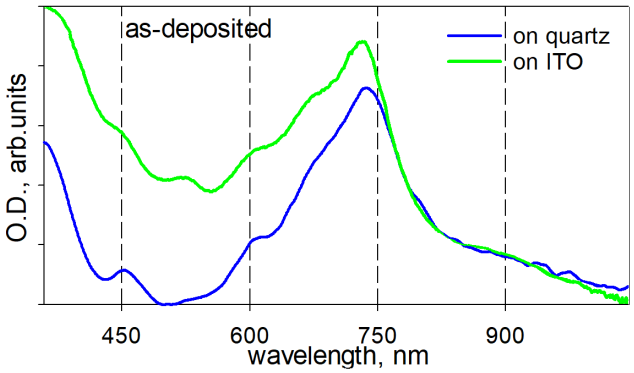
Photographs of thin-film PcMn samples on various substrates used in this work after one month storage in air.

Supplement 5



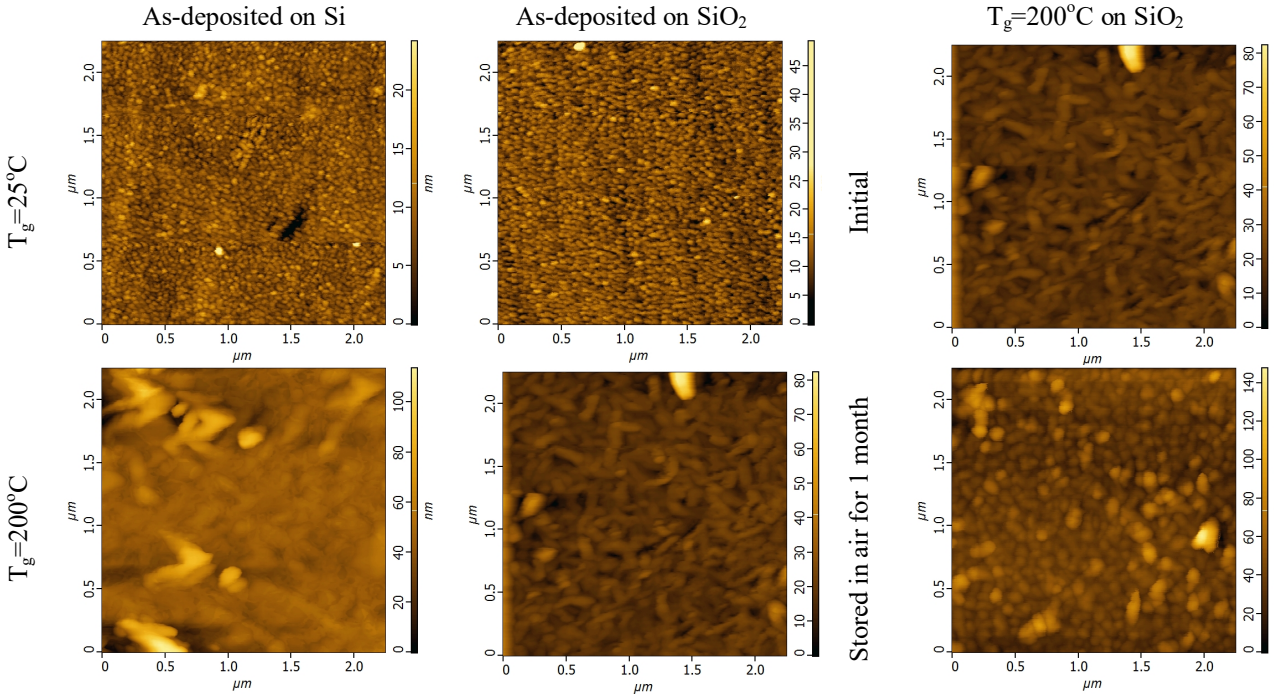
Spectra of the β-PcMn film in air and Ar before and after one-sun illumination for 13 h (a Zolix SS150 solar simulator with AM1.5G filter)

← Redrawn from Fig. 4: Comparison of spectra of PcMn films on cold and hot substrates.



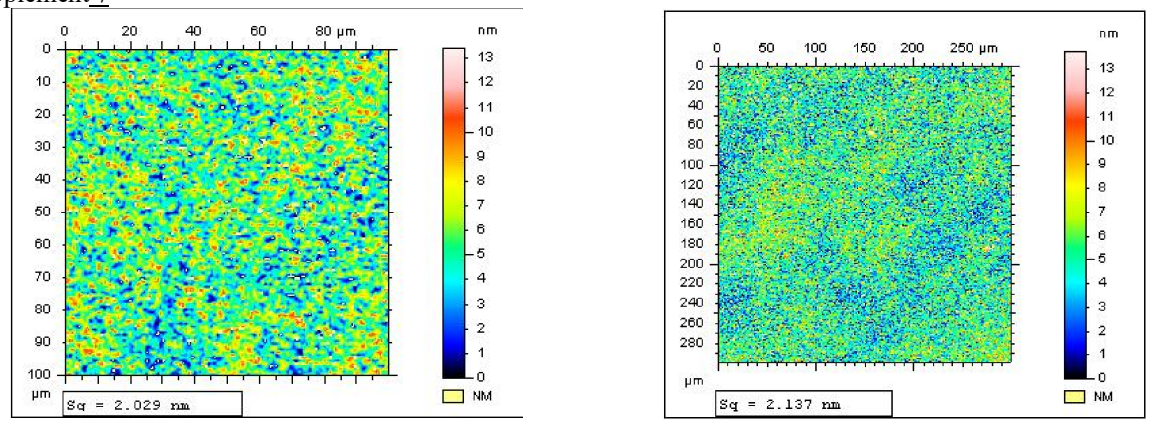
Spectra of PcMn films with T_g=25°C on quartz (green curve) and indium-tin oxide (ITO, blue curve)

Supplement 6

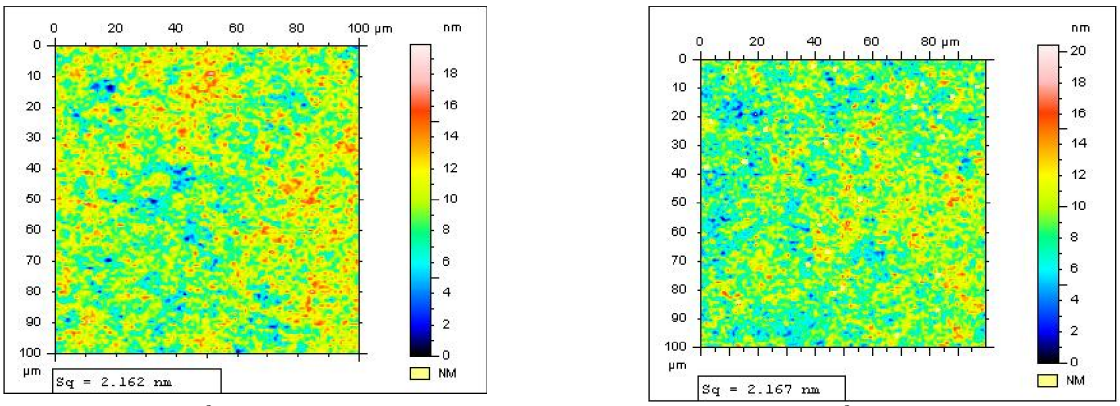


AFM images of the surface of PcMn films deposited on silicon (left column) and quartz substrates at 25° and 200°C, before and after 1 month storage in air, *cf.* Fig. 6.

Supplement 7

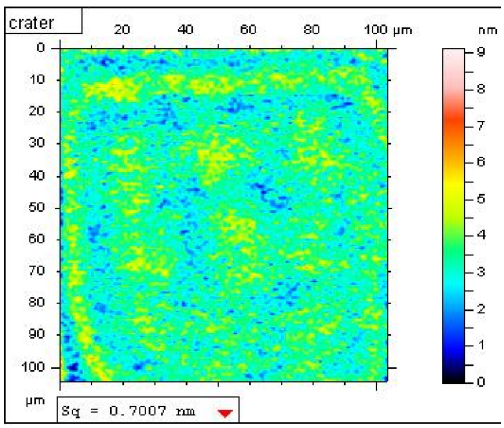


WLI images of the surface of the low-temperature PcMn film after 1 month storage in air, with different magnification. Sq = root mean square roughness

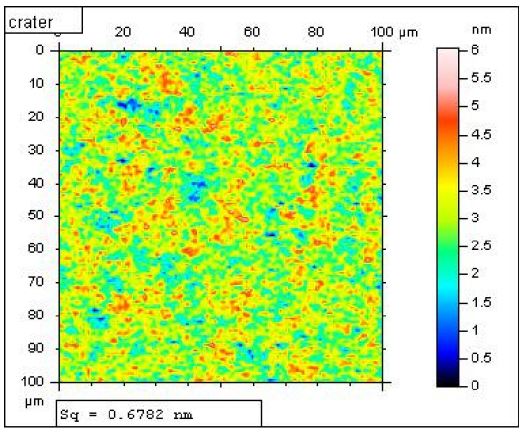


Tg=200°C, stored in air Tg=200°C, stored in Ar

WLI images of the surface of the high-temperature PcMn film after 1 month storage



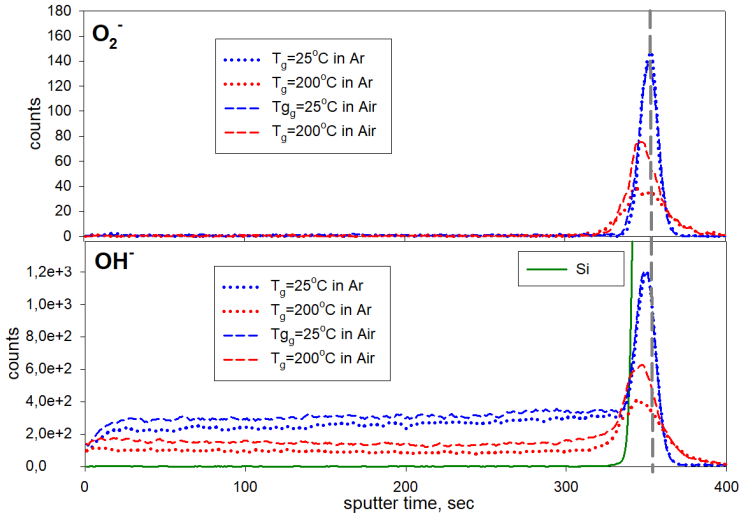
T_g=25°C, stored in air



T_g=200°C, stored in air

WLI images of the bottom of crater remaining after SIMS depth profiling down to silicon substrate

Supplement 8



SIMS profiles for negative secondary ions O_2^- and OH^-, *cf.* Fig. 5.