

Erratum to: Determination of the Fe-Cr-Mo Phase Diagram at Intermediate Temperatures using Dual-Anneal Diffusion Multiples

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Two kinds of precipitates in the dual-anneal diffusion multiples (DADMs) were mis-identified. The original phase identification was based on morphologies and phases reported in the literature for Fe-Cr-Mo alloys. Very recent TEM characterization of a thin foil sample extracted from area “e” of Fig. 5 using FIB shows that the dendrite-looking precipitates (also shown in Fig. 6(e)) are not the μ phase, but the R-phase. The long-needle precipitates seen in area “f” of Fig. 5 (and also in Fig. 6(f)) are not the R-phase, but a phase yet to be identified.

Based on the above TEM work, the similar two kinds of precipitates in Figs. 10 and 11 should have also been mis-identified. The long-needle precipitates seen in area “b” of

Fig. 10 (and also in Fig. 11(b)) are not the R-phase, but a metastable phase yet to be identified. The fine precipitates in area “a” of Fig. 10 (also shown in Fig. 11(a)) are the R-phase, not the μ phase.

It should be mentioned that the mis-identification of the two metastable phases does not affect the phase diagrams reported in this article since all the phase equilibria were obtained from large stable/equilibrium precipitate phases. All the phase diagram data reported in this article are correct to the best knowledge of the authors.

Figure 5, 6, 10 and 11 with the correct phase identification are provided here in this erratum.

The authors are thankful to Dr. Changdong Wei for performing the FIB TEM foil extractions and for characterizing these precipitate phases using TEM.

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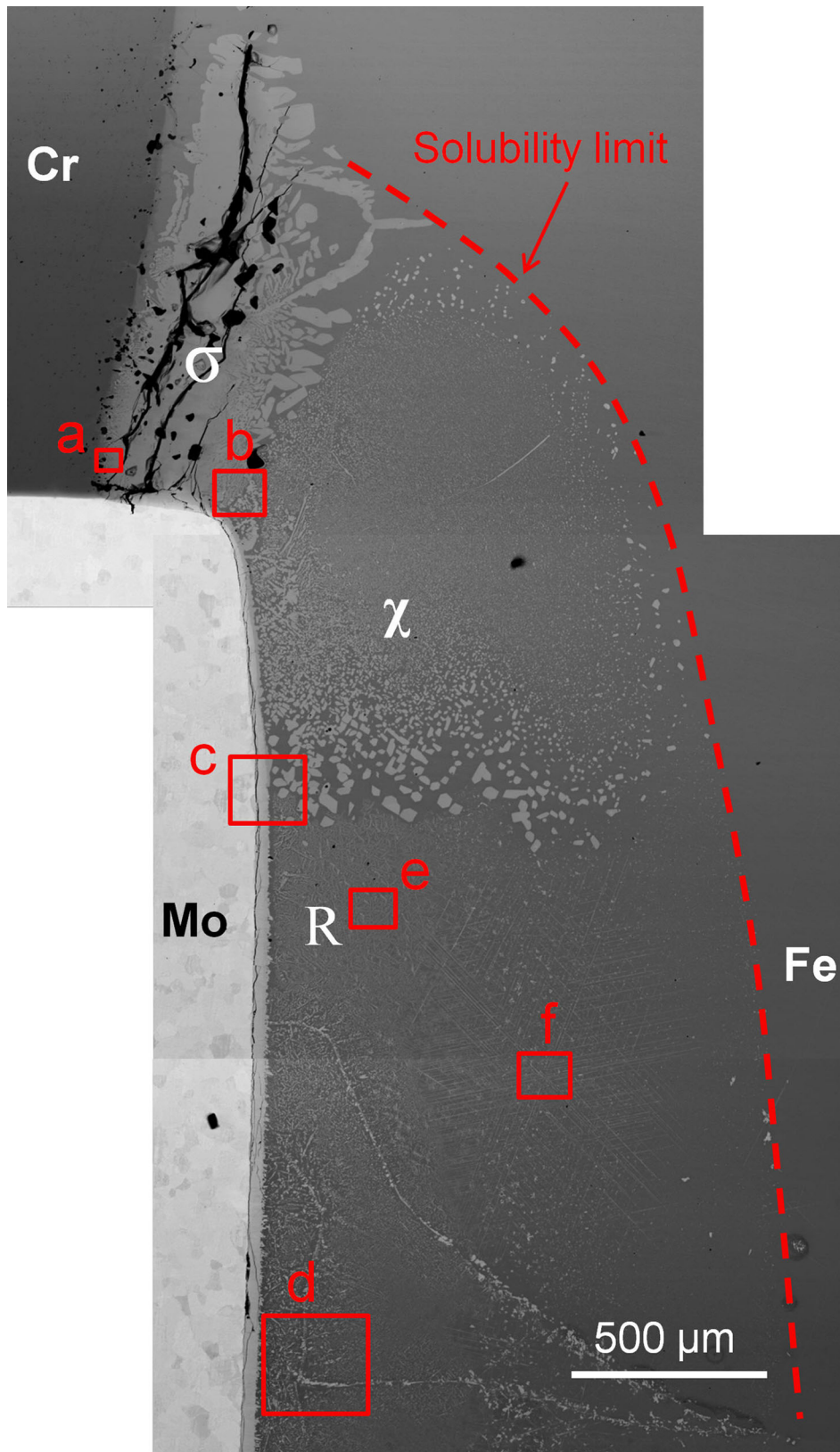


Fig. 5 SEM BSE image montage showing the phase precipitation in the Fe-Cr-Mo tri-junction area of Sample #2 (1200 °C—500 h + 900 °C—500 h). High magnification images of various regions marked from a to f are shown in Fig. 6

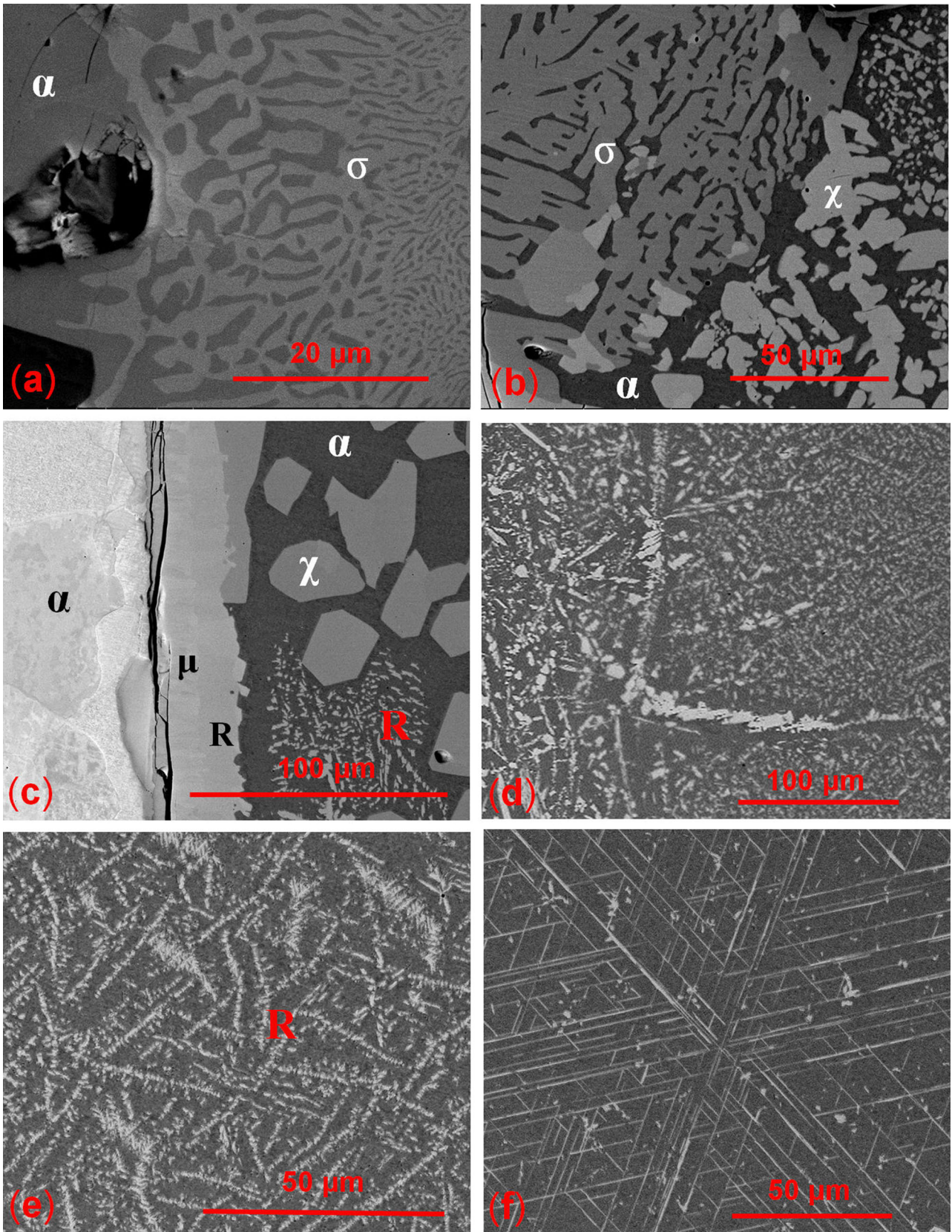


Fig. 6 SEM BSE images showing various precipitates in the Fe-Cr-Mo tri-junction of Sample #2. The locations of these images are marked in Fig. 5

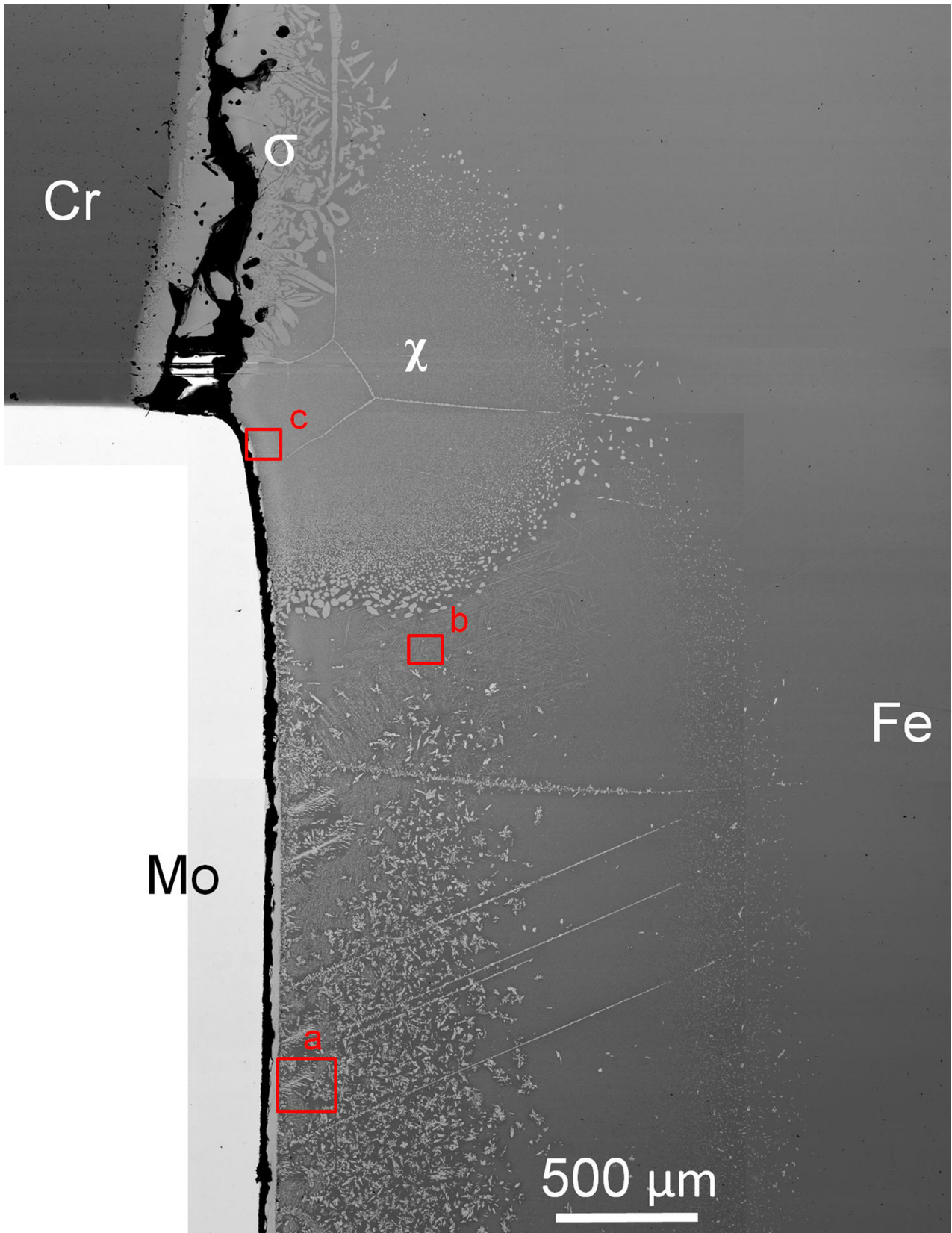


Fig. 10 SEM BSE image montage showing the phase precipitation in the Fe-Cr-Mo tri-junction area of Sample #3 (1200 °C—500 h + 800 °C—1000 h). High magnification images of various regions marked from a to c are shown in Fig. 11

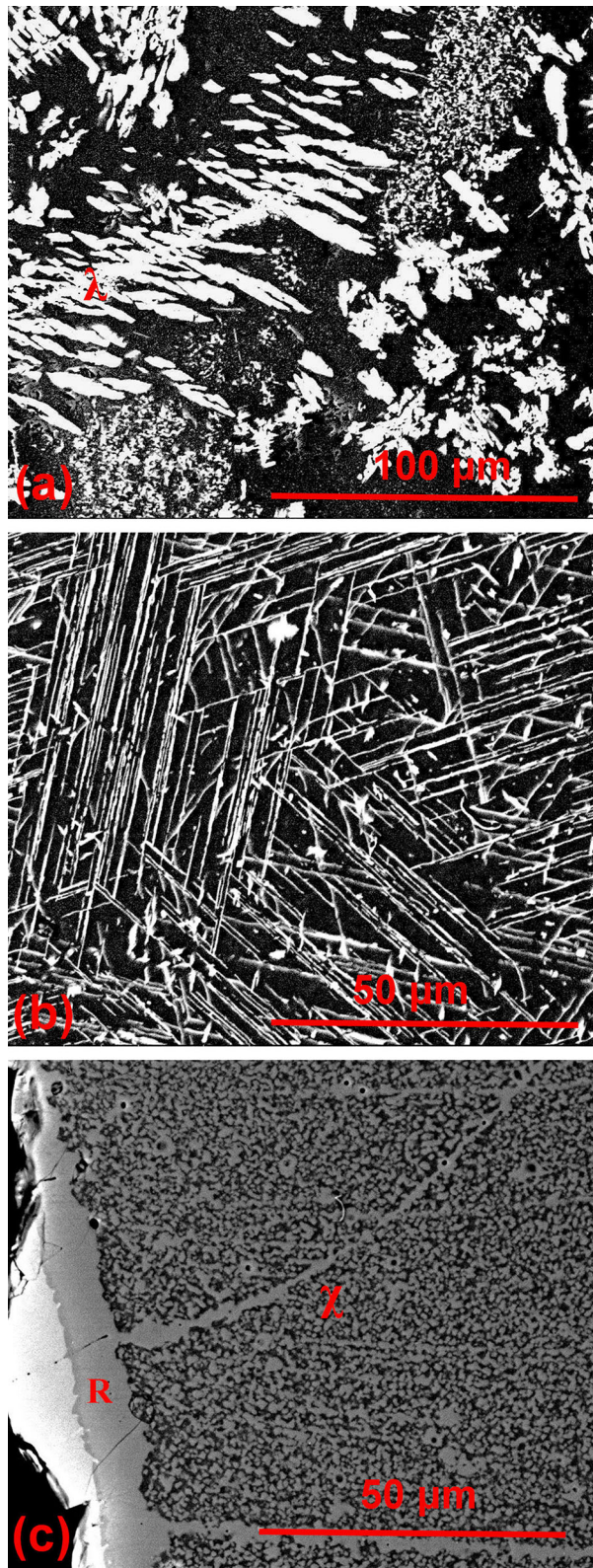


Fig. 11 SEM BSE images showing various precipitates in the Fe-Cr-Mo tri-junction of Sample #3. The locations of these images are marked in Fig. 10