

## Supplementary Information

### **Structural and compositional study of precipitates in under-aged Cu-added Al-Mg-Si alloy**

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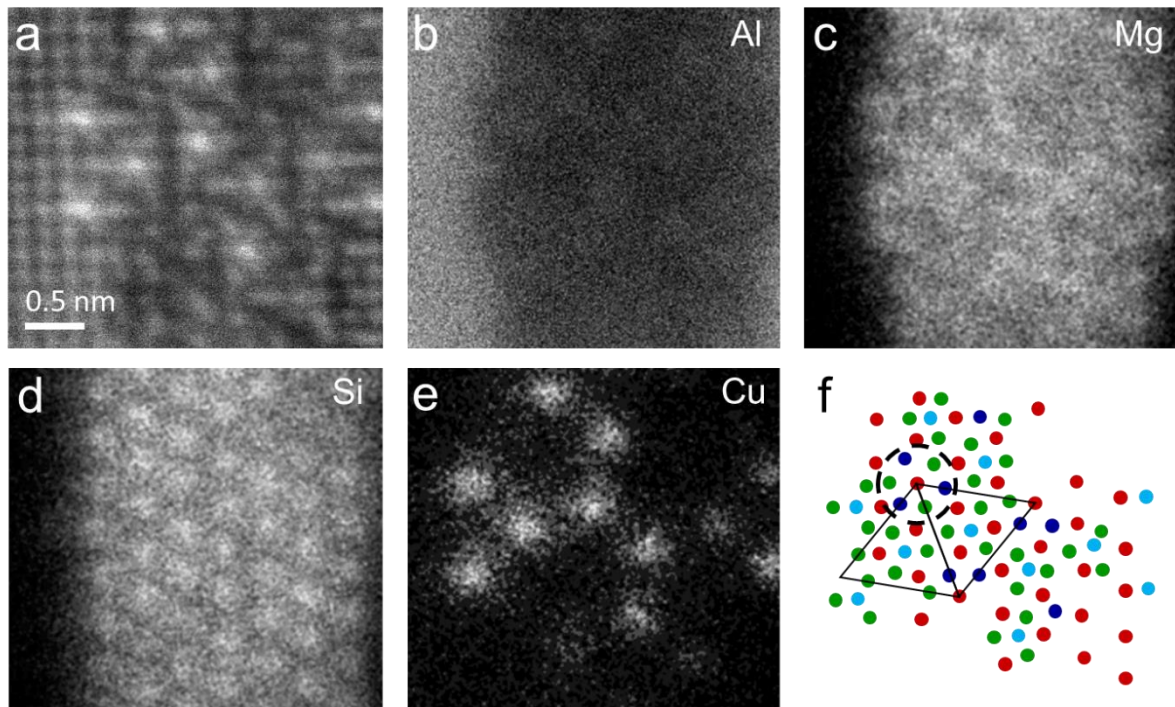
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Supplement figure 1. Atommally-resolved HAADF-STEM image and EDS maps of the disordered Q' phase in under-aged 6016 alloy. (a) shows HAADF-STEM image. (b-e) shows chemical map of Al, Mg, Si, and Cu, respectively. (f) shows schematic drawing of proposed Q' structure from the EDS results. Color codes are as follows: blue = Al, green = Mg, red = Si, and Cu = light blue, respectively. Dotted circle indicates three-symmetric Al occupied sites. The composition of Q' can be estimated as  $\text{Al}_3\text{Mg}_9\text{Si}_2\text{Cu}_7$ , as schematically drawn in supplement figure 1(f).