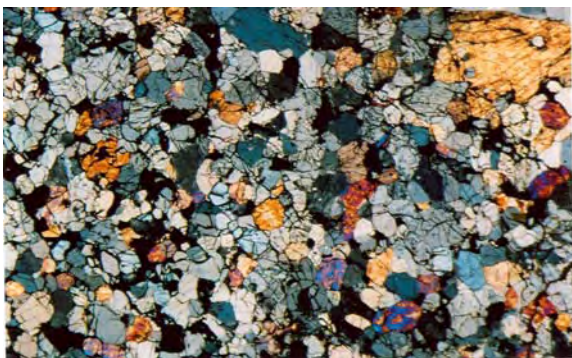
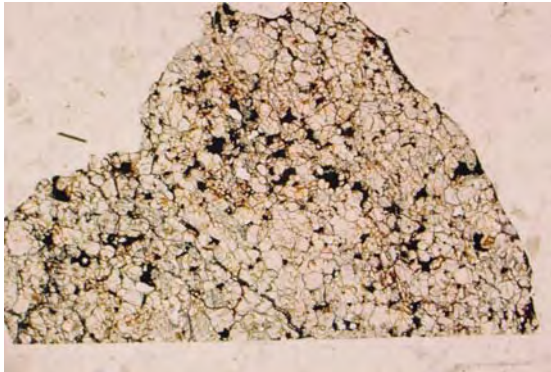


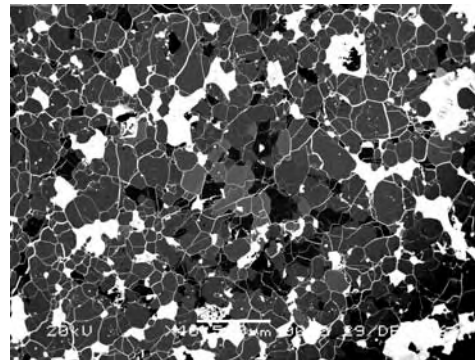
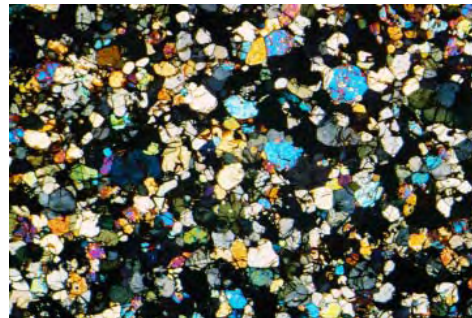
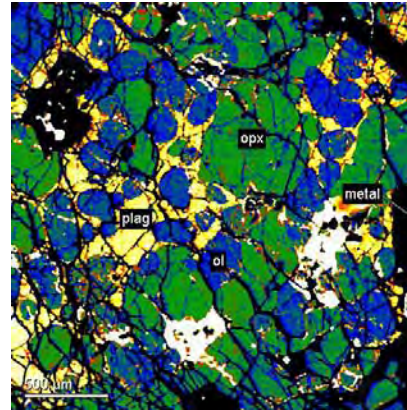


**Textures and Metal Modes:** Typical textures are shown in Figures 3 and 4. The grain size distinction between acapulcoites and lodranites is taken to be at 500  $\mu\text{m}$  [1]. Available metal modes (Table 1) do not correlate well with Fa content of olivine, perhaps in part because of variable partial melting/segregation.

**Discussion:** The broad correlation between olivine composition and  $\Delta^{17}\text{O}$  may imply that a process operated on the AL parent body which involved mixing between one end-member with more negative  $\Delta^{17}\text{O}$  and second component with  $\Delta^{17}\text{O}$  much closer to the TFL. The latter could have been an exotic impactor mixed into a regolith, which subsequently underwent metamorphism, and even partial melting [1, 2]. Although component 1 in this model has olivine and oxygen isotopic compositions similar to those in CH chondrites, the latter are far too metal-rich, *unless* the presumed component 2 was very metal-poor and/or contained relatively magnesian silicate minerals. Possible candidates are brachinites (see Figure 2) or even certain metal-poor chondrites (see [7]). If component 2 was also more oxidized than component 1, then the observed trend could be one of progressive oxidation; however, the lack of a clear pattern of decreasing metal abundance may be inconsistent with this.



**Figure 3:** Optical images of NWA 2627 (width 20 mm) and unnamed lodranite (width 9 mm).



**Figure 4:** BSE/optical images of acapulcoites NWA 1617, NWA 2656 (width 7 mm) and NWA 2775.

**References:** [1] McCoy T. J. et al. (1996) *Geochim. Cosmochim. Acta* **61**, 2861-2708; McCoy T. J. et al. (1997) *Geochim. Cosmochim. Acta* **61**, 623-637 & 639-650 [2] Patzer A. et al. (2004) *MAPS* **39**, 61-85; Folco L. et al. (2006) *MAPS* **41**, 1183-1198; McCoy T. J. et al. (2006) *Geochim. Cosmochim. Acta* **70**, 516-531. [3] Clayton R. N. and Mayeda T. K. (1996) *Geochim. Cosmochim. Acta* **60**, 1999-2017 [4] *NIPR Bulletins; Meteorit. Bulletins*; Greshake A. et al. (2001) *LPS XXXII*, #1325; Yamaguchi A. et al. (2006) *69th Met. Soc. Mtg.*, #5202 [5] Rumble D. et al. (2005) *68th Met. Soc. Mtg.*, #5138 [6] Rumble D. et al. (2007) *Geochim. Cosmochim. Acta* **71** [7] Rumble D. et al. (2007) *This conference*.