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**Introduction:** Little is known about the timing and processes involved in the incorporation of organic matter with inorganic materials in early Solar System bodies. Recently, X-ray absorption near-edge spectroscopy (XANES) studies showed carbon-rich rims surrounding individual mineral grains in anhydrous IDPs [1,2]. These carbonaceous rims are believed to have formed prior to parent body formation and likely served to bond mineral grains during accretion into larger aggregates. We are exploring the nature of these carbonaceous rims through coordinated analyses of their chemistry, mineralogy, spectroscopy and isotopic characteristics. Here we report our preliminary mineralogical observations.

**Methods:** Three cluster IDPs were obtained from the L2036 flag: AW1 (10 μm) from cluster #4, AX1 (14 μm) from cluster #10 and AY1 (15 μm) from cluster #9. The IDPs were first transferred to diamond substrates for bulk Fourier-transform infrared (FTIR) measurements at JSC. Following FTIR analyses, each IDP was embedded in elemental S and thin sections (~50 nm thick) were prepared by ultramicrotomy. These sections will be analyzed for mineralogy and chemistry by TEM, and isotopic compositions by NanoSIMS at JSC. Thick sections (100 nm) were prepared for synchrotron FTIR microscopy and C- and N-XANES studies at BNL. The remainder of each IDP was extracted from the S and pressed into a high-purity indium foil for nuclear reaction analysis (NRA) for bulk C/N elemental ratios at Saclay [3]. The NRA analyses are underway and will be followed by chemical analyses by EDX at CRREL.

**Results: L2036 AW1** is an anhydrous IDP showing two distinct regions, one dominated by GEMS (glass with embedded metal and sulfides) grains, and the other dominated by equilibrated aggregates (EAs), and carbonaceous material. The GEMS grains and EAs are chemically and mineralogically similar to those in other IDPs [4-8]. The spherical and vesicular carbonaceous material (1.8 μm in size) is located among the EAs. Although a partial magnetite rim is present on the IDP surface, the large olivine grains in the EAs preserved solar flare tracks (~$10^{11}$ tracks/$cm^2$), indicating that the IDP was not strongly heated by atmospheric entry. **L2036AX1 and L2036AY1** are hydrated IDPs containing poorly crystallized smectite based on the chemical composition and basal spacing, intergrown with FeNi sulfide grains. Al-rich amorphous silicates and magnetite aggregates are minor components of both hydrated IDPs. Carbonaceous grains (~20-50 nm) are distributed throughout the IDPs. It is unusual for the cluster IDPs to have hydrated phases.

**References:** [1] Flynn G.J. et al. 2010. *LPSC 41*, #1079. [2]Flynn G.J. 2011. *Formation of the First Solids in the Solar System*, Abst.#9143. [3] Smith T. et al. 2012. LPSC43, #2198. [4] Bradley J.P. (1994) *GCA*, 58, 2123. [5] Brownlee, D. E. *et al*. (2005) *LPSC 36*, #2391. [6] Keller, L.P. et al. (2009) *LPSC 40*, #2121. [7]Bradley J.P. 1994. *Science* 265, 925. [8] Keller L.P. & Messenger S. 2011. *GCA* 75, 5336.