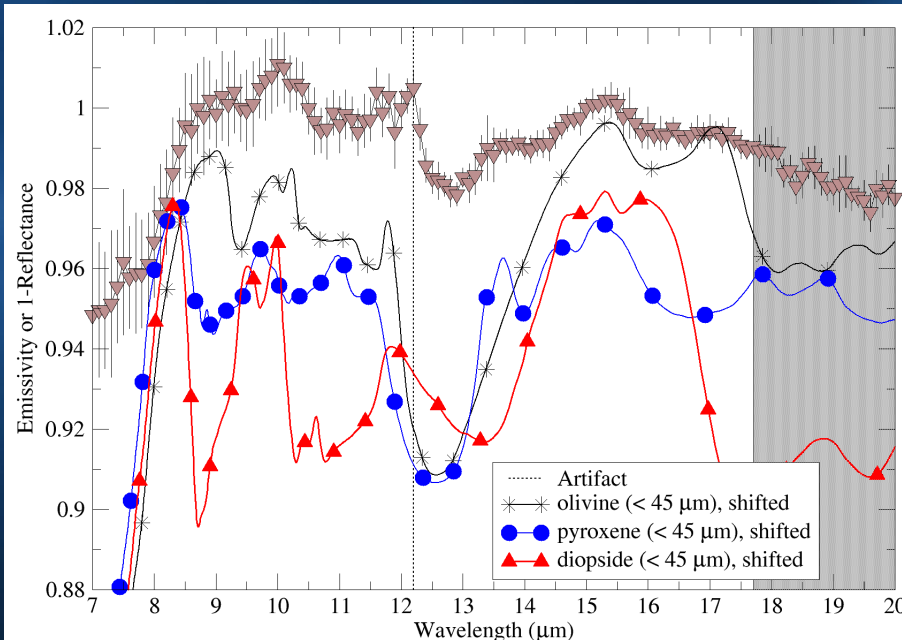




Didymos's Composition from JWST Measurements



JWST measurements of Didymos and Dimorphos (left) show composition similar to Chelyabinsk (and other) meteorites (right)



Specific minerals identified in mid-IR emissivity spectra of Didymos are matches to L/LL-type meteorites

The DART mission target asteroid is representative of the most frequent Earth impactors, including Chelyabinsk

- We must understand the properties of the Didymos system properties to calibrate impact models using the DART impact.
- The James Webb Space Telescope (JWST) found an L or LL chondrite composition for the asteroid from spectroscopy, the same as the Chelyabinsk impactor and the Hayabusa target asteroid Itokawa
- Didymos's surface porosity and particle size, is consistent with other objects of its diameter
- Didymos's composition is seen in nearly half of all meteorite falls, and is well-studied in terrestrial laboratories. Understanding of DART's impact conditions is much improved by making this connection.