A spatially resolved view of z~5 massive main-sequence galaxies from the far-UV to the far-infrared.

ALMA and early JWST results identified a numerous population of massive dusty galaxies at z^5 . These galaxies are strongly dust obscured and gas rich. They could be the ancestors of nowadays most massive passive galaxies at the center of groups and clusters. Understanding the nature of these systems is thus key to understand the formation of the most massive galaxies.

Since these massive galaxies are strongly dust-obscured, the morphological information provided by HST on the rest-frame far-UV was limited, and some galaxies were not even detected. JWST and ALMA are opening a new era, and we can now resolve now spatially these objects in the rest-frame optical and far-infrared, respectively.

I will present first results from a sample of galaxies combining data from the ALMA-ALPINE and the COSMOSweb JWST surveys. Our current preliminary analysis shows extremely complex morphologies with large contrast between wavelengths. This suggests that these objects are far from being homogeneous, but also how key are far-infrared data to locate properly all the star-forming regions.