Our sample of stars have been classified into a single group according to the shape and peak wavelength of their main IR spectral features (see [1]). The ISO spectra were retrieved from an online database [2]. The spectral peaks were analyzed by taking the data divided by a fitted blackbody continuum.

Intermediate mass stars (0.8-8 M☉), eventually become Asymptotic Giant Branch (AGB) stars. During this phase of evolution, these stars pulsate and throw off mass to create a shell of gas. As the gas drifts away from the star it cools and forms dust. By determining the composition of the circumstellar dust, we can test hypotheses for dust formation and evolution. Because these stars are major contributors of dust and new elements to the interstellar medium (ISM), their dust is important for Galactic chemical evolution. Infrared (IR) spectra are used to characterize the dust around these AGB stars. Since most IR light gets absorbed in the Earth’s atmosphere, space observatories, such as ISO are needed to collect accurate data of the dust. The current accepted hypotheses for dust formation around oxygen-rich AGB stars suggest that it is dominated by a mixture of glassy silicates and alumina. However, spectral features longward of ~14 μm suggests that this does not give the whole picture.

**CONCLUSIONS**

Conventional wisdom is that the envelope of the dust feature can be fitted using a mixture of amorphous alumina and amorphous silicates, however, the more detailed features revealed by high resolution data can be fitted better by including crystalline silicates in the synthetic spectra.