

Quartz

SiO₂

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For more information, see the lecture notes section.

Identification:

Hand Sample: Quartz can be found in any of a number of colors – white, black, pink, purple, yellow, green, etc. Quartz has a vitreous luster and conchoidal fracture is diagnostic. It is found in almost all types of rocks and can come in several different varieties, i.e. Chalcedony, agate, jasper, etc.

Thin Section: Plane Light: Low positive relief. Colorless but numerous inclusions can cause it to look cloudy. No cleavage, however fracturing may be present. Crossed Polars: Uniaxial, (+). Birefringance is low resulting in first order greys and yellows. Extinction is usually undulatory.

Zeolites



Zeolites are prevalent in lacustrine and marine sediments, soils, low-grade metamorphics, and altered volcanic rocks. They are hydrated aluminosilicates, where M is usually Na or K; D is Ca, Mg, or another divalent cation. Currently over 40 natural and 600 synthetic zeolites are known. The zeolites all display moderately negative relief and will show low birefringance. Some zeolites are isotropic. The zeolites listed below are some of the most common found in rocks. No zeolites will appear on the exam and these are for your information only.

Anaclime- Isotropic, similar to leucite and sodalite but those are not found in sedimentary or metamorphic rocks or as vesicle fillings.

Chabazite- Uniaxial or Biaxial, (+) or (-), low birefringance (first order grey) and cubic habit are distinctive.

Stilbite- Biaxial (-), Platy crystals in sheaflike aggregates and twinning are diagnostic. First order grey and first order yellow are the typical interference colors.