

# Q-carbon and diamond compared

by Robert William Whitby  
15 March 2016

<http://www.robertwilliamwhitby.com>  
Copyright 2016 by Robert William Whitby

## References

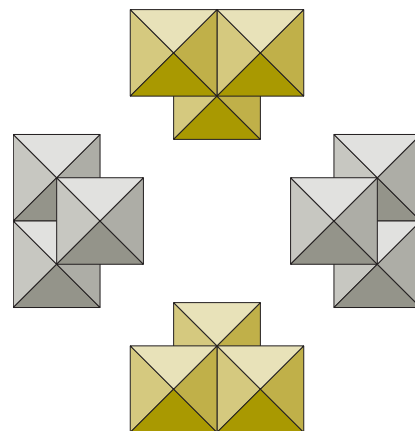
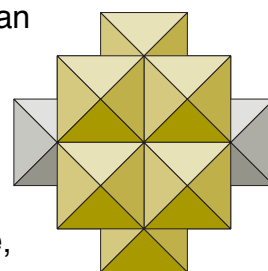
1. Robert William Whitby, octahedron1sted.pdf, page 192
2. <https://news.ncsu.edu/2015/11/narayan-q-carbon-2015/>

## Introduction

The description of Q-carbon found in Reference 2 suggests an assembly of four C-atoms that can be found in Reference 1. It is labeled "C4 ring" in that document. This assembly is compared with the tetrahedral assembly of four C-atoms that is diamond. The two assemblies are shown in the figure. The same four C-atoms, each maintaining its orientation as shown in the center of the figure, can be joined in two different ways. At the top of the figure, each of the C-atoms acts as a facial panel of a regular tetrahedron. This is diamond. At the bottom of the figure, the four C-atoms are joined cleft-to-cleft in a tight ring. This is Q-carbon.

## Diamond

### C<sub>4</sub>-tetrahedron



### C<sub>4</sub>-ring

## Q-Carbon