7.3.1: Lecture Demonstrations

Balloon Model for Electrostatic Repulsion

Spherical balloons are inflated and tied off, and their inlets are twisted together so that four balloons are attached. They assume tetrahedral geometry by mutual repulsion, modeling VSERPR approach to repulsion of four charge centers. If one balloon is broken, the remaining three assume a planar triangular geometry, and if another balloon is broken, the remaining two assume a linear geometry.

"Nitrogen Triiodide"

Prepare nitrogen triiodide, See Molecules with Lone Pairs Lecture Demonstrations.

The instability of NI_3 (or better, NI_3*NH_3) is due to the same repulsions that are the basis for the VSEPR approach (3 large I atoms and a lone pair bonded to the relatively small N atom)

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