AgCl can be ‘completely’ precipitated before any PbCl₂ begins to precipitate. The [Ag⁺] has been reduced to $2.0 \times 10^{-9}$ M in the presence of $10^{-3}$ M Pb²⁺.

Carbon is a non-metal, whilst silicon is a semi-metal. Carbon is a smaller atom than silicon and forms double bonds easily, whereas silicon generally forms only single bonds. Consequently CO₂ is a molecular gas while SiO₂ is a covalent network solid.

<table>
<thead>
<tr>
<th>Compound</th>
<th>Formula</th>
<th>Tetrahedral</th>
<th>Octahedral</th>
</tr>
</thead>
<tbody>
<tr>
<td>hexaamminechromium(III) ion</td>
<td>6</td>
<td></td>
<td>octahedral</td>
</tr>
<tr>
<td>$[\text{Fe(CN)}_6]^{4-}$</td>
<td>6</td>
<td>octahedral</td>
<td></td>
</tr>
<tr>
<td>$[\text{Ag(NH}_3)_2]^{+}$</td>
<td>2</td>
<td>linear</td>
<td></td>
</tr>
<tr>
<td>tetraamminecopper(II) sulfate</td>
<td>4</td>
<td>tetrahedral</td>
<td></td>
</tr>
</tbody>
</table>
2001-N-5

- Chlorobenzene
- 4-methylpentanoic acid
- 1,2-dibromo-1-methylcyclohexane
- 2-butyne
- 2-methylpropionic acid and methanol
- 2-methylpropanoic acid and methanol
- 3,3-dimeth-2-butanol
2001-N-6

- 3-methyl-3-hexanol

(S)

a = amine
b = aromatic ring (arene)

racemic mixture
3-methyl-3-hexanol