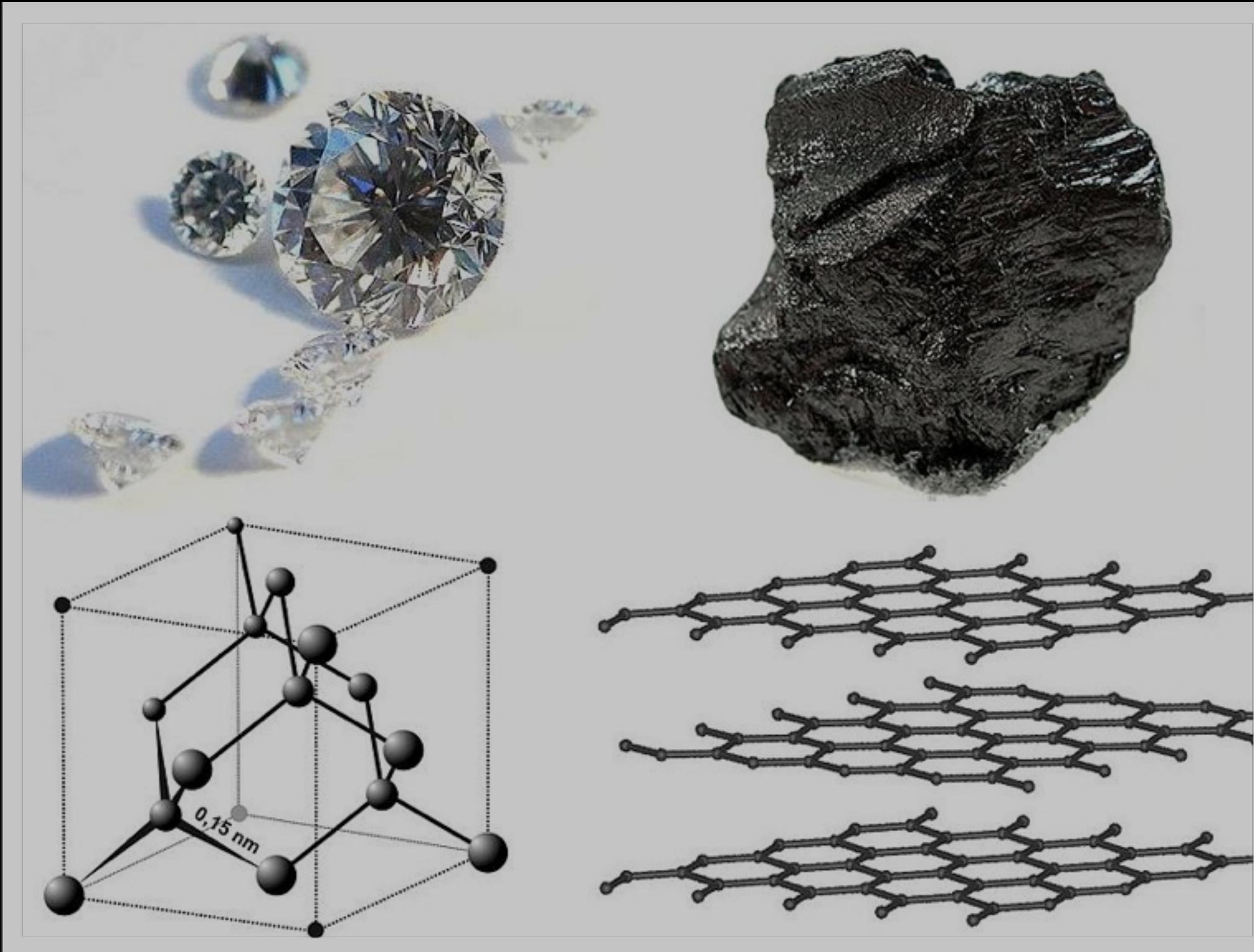
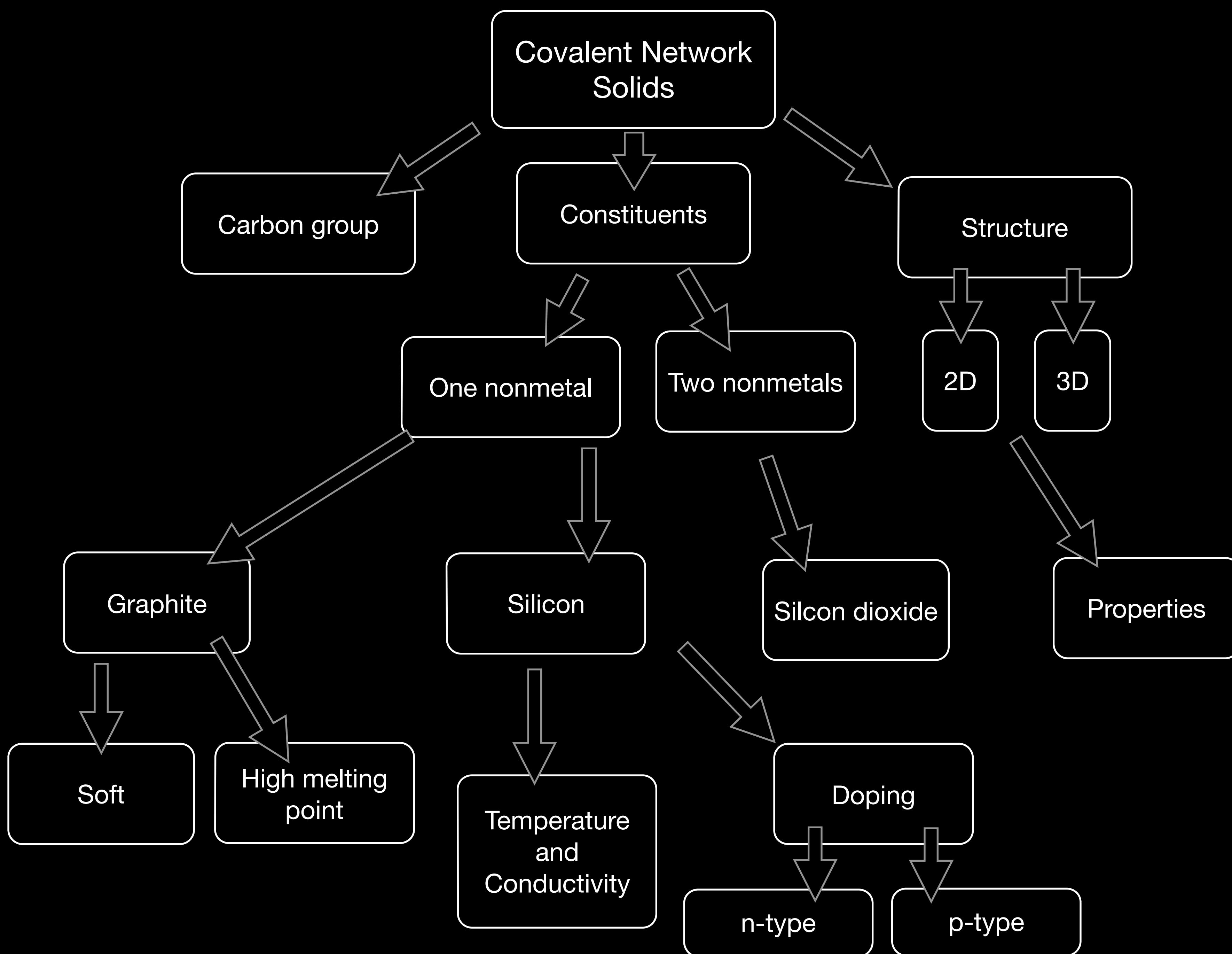


# Covalent Network Solids



Chemistry Essentials - 025

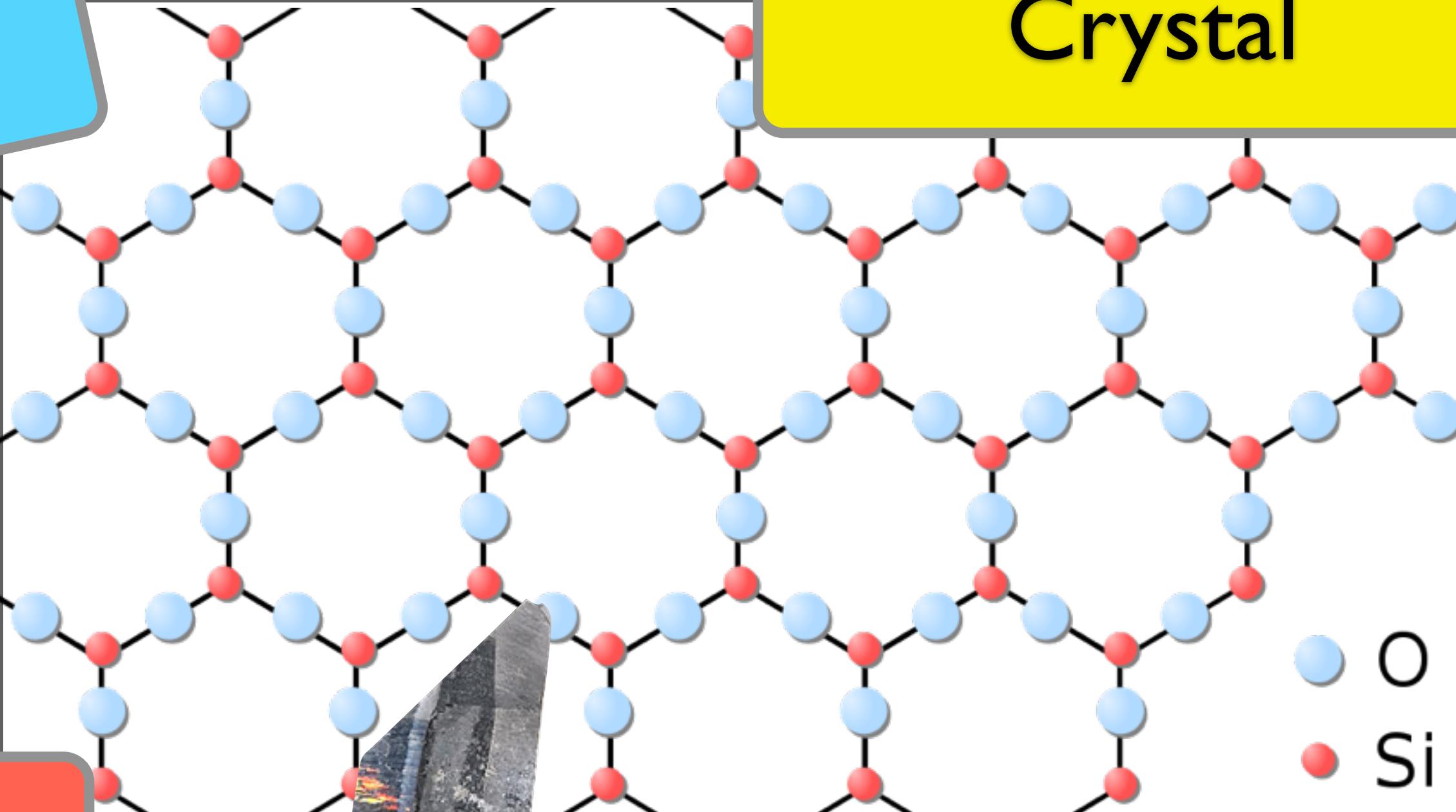


# Covalent Network Solids

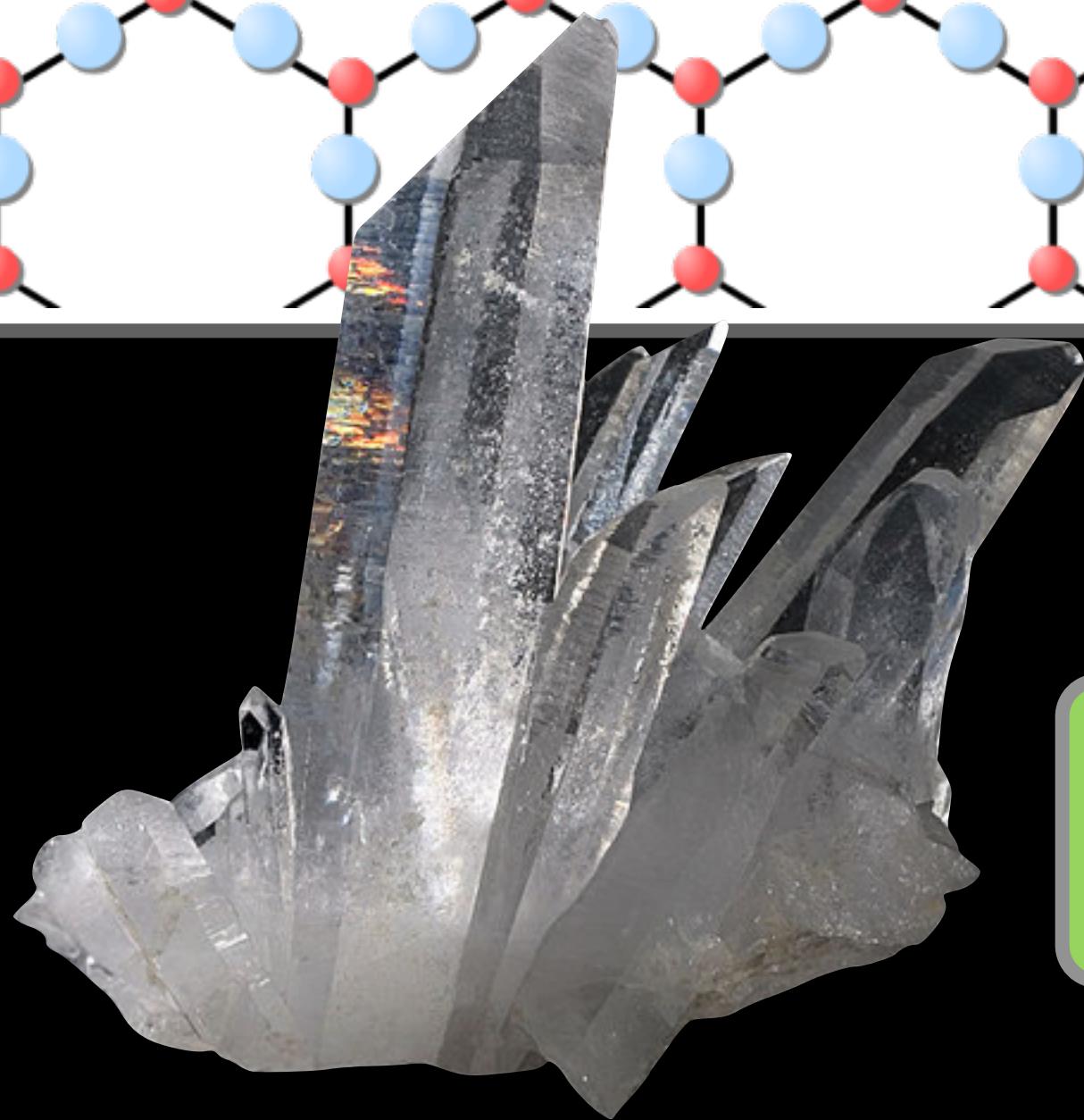
14	
4A	
6	
<b>C</b>	Carbon
12.01	
14	
<b>Si</b>	Silicon
28.09	
32	
<b>Ge</b>	Germanium
72.61	
50	
<b>Sn</b>	Tin
118.71	
82	
<b>Pb</b>	Lead
207.2	

2D or 3D

Crystal

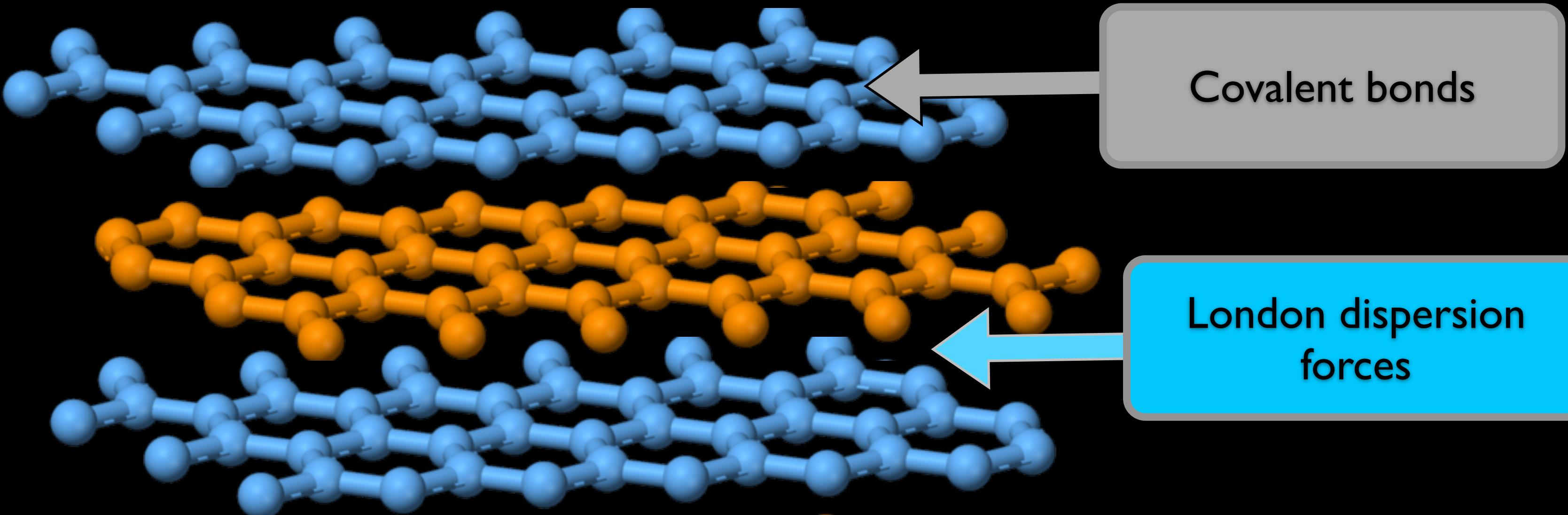


High melting point

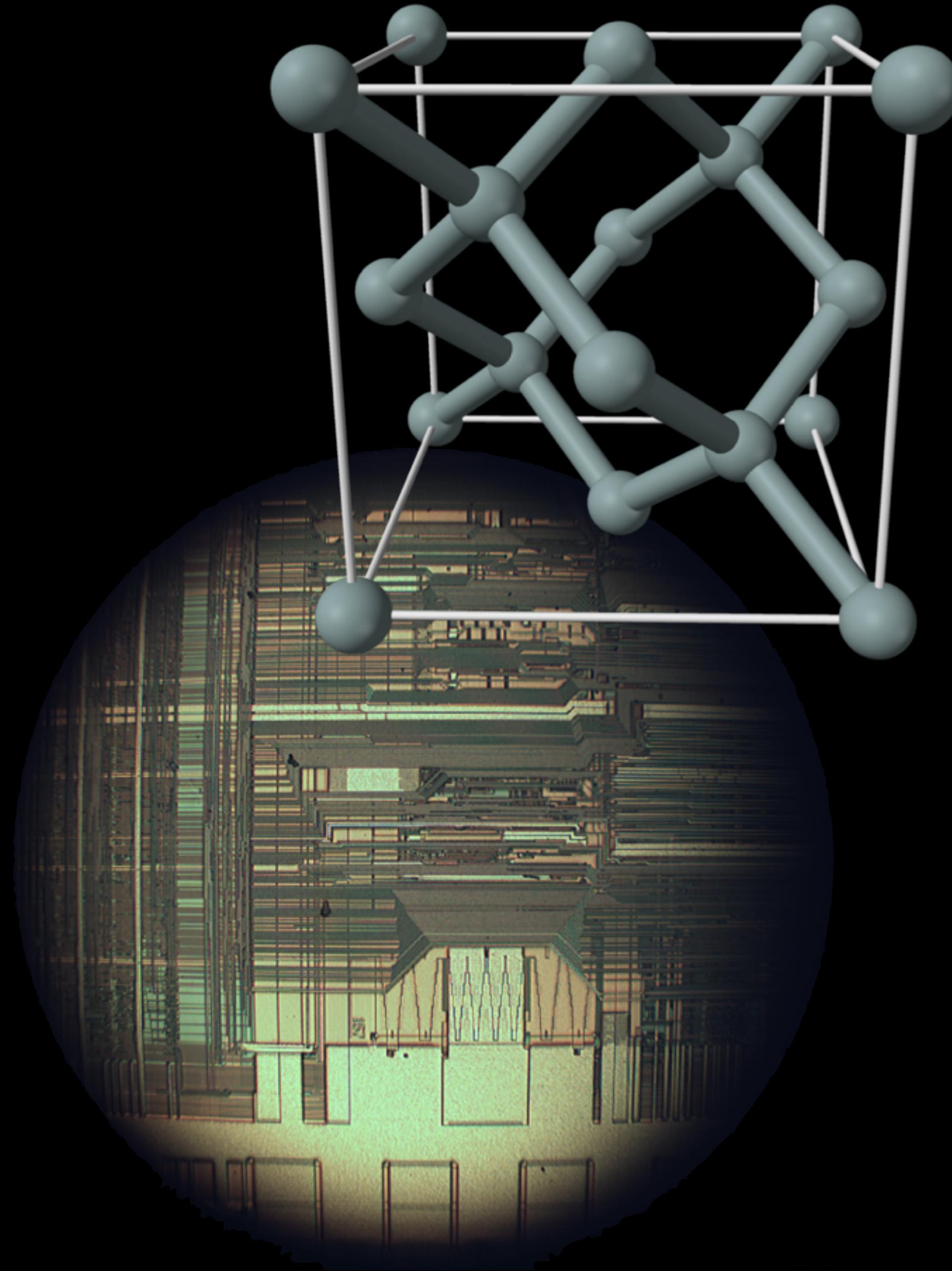


Carbon group

# Graphite

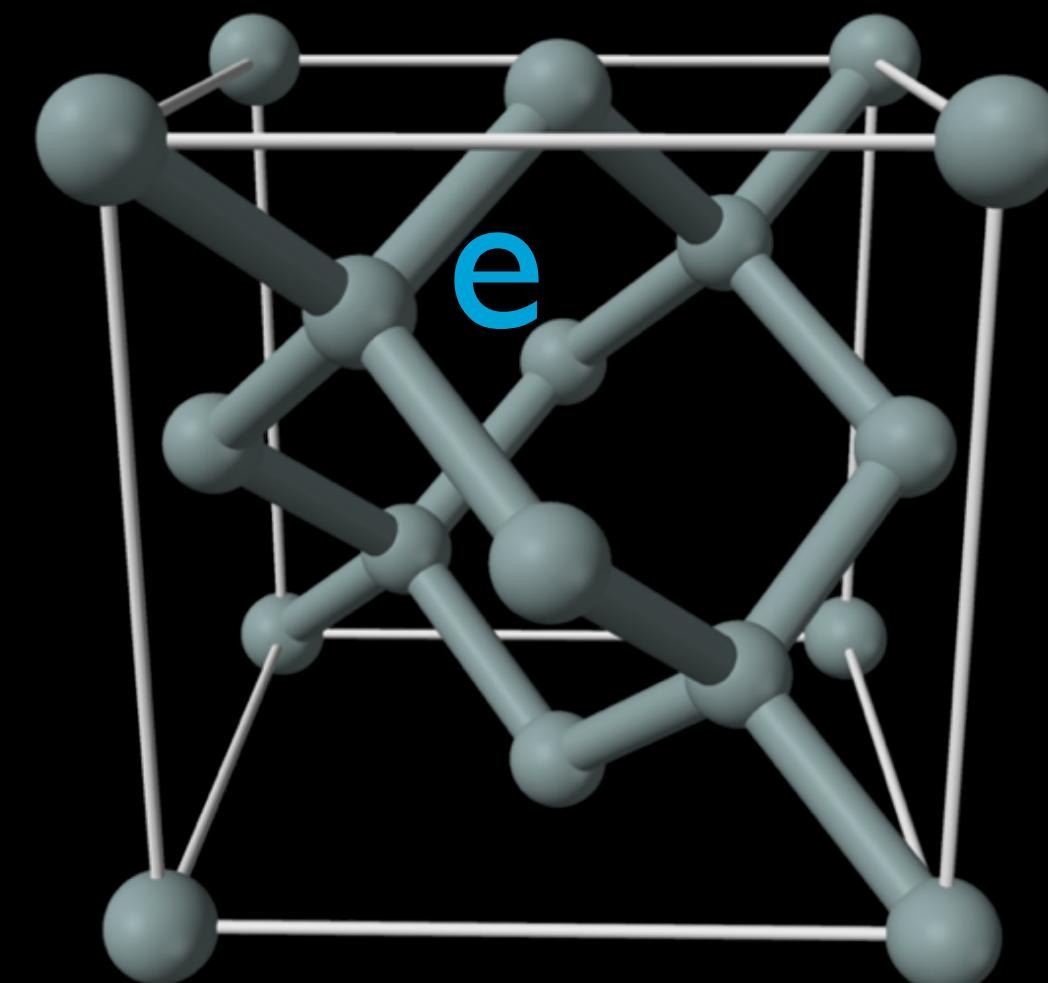


# Silicon

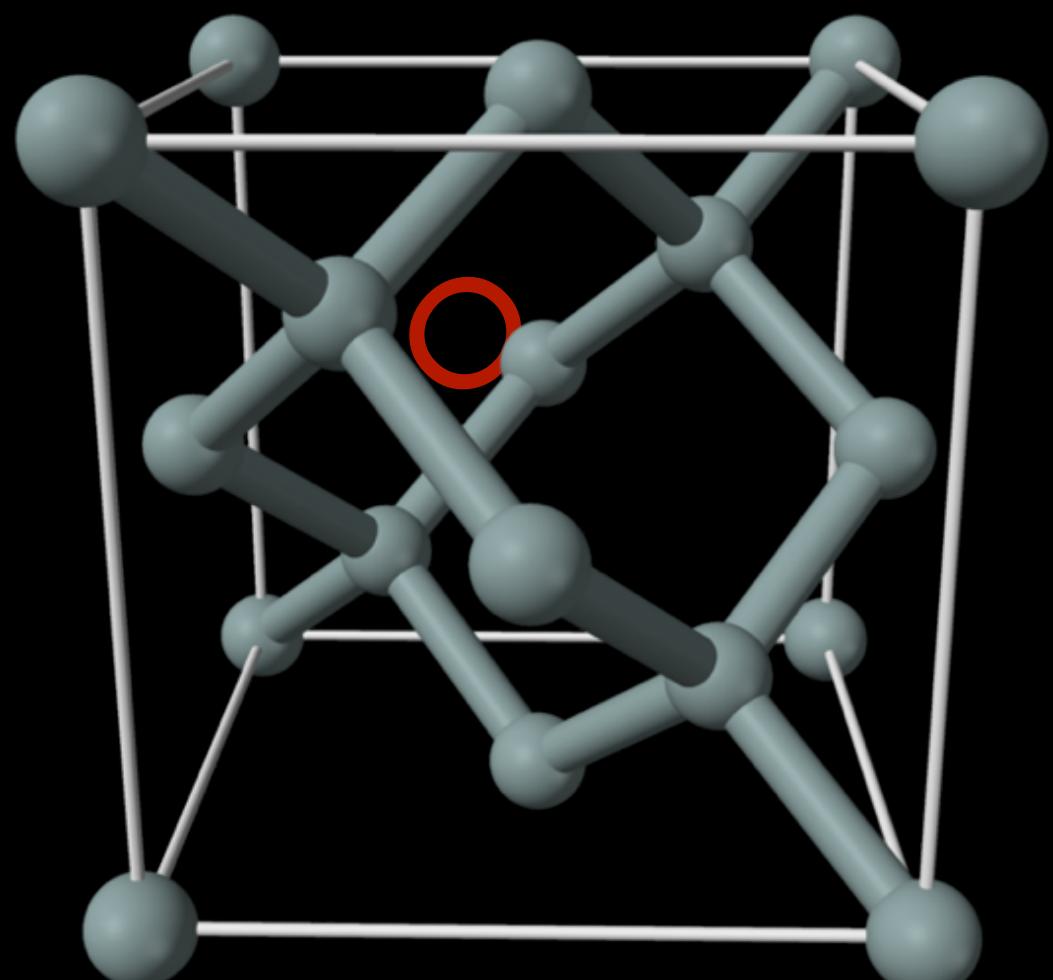


# Silicon

n-type  
doping



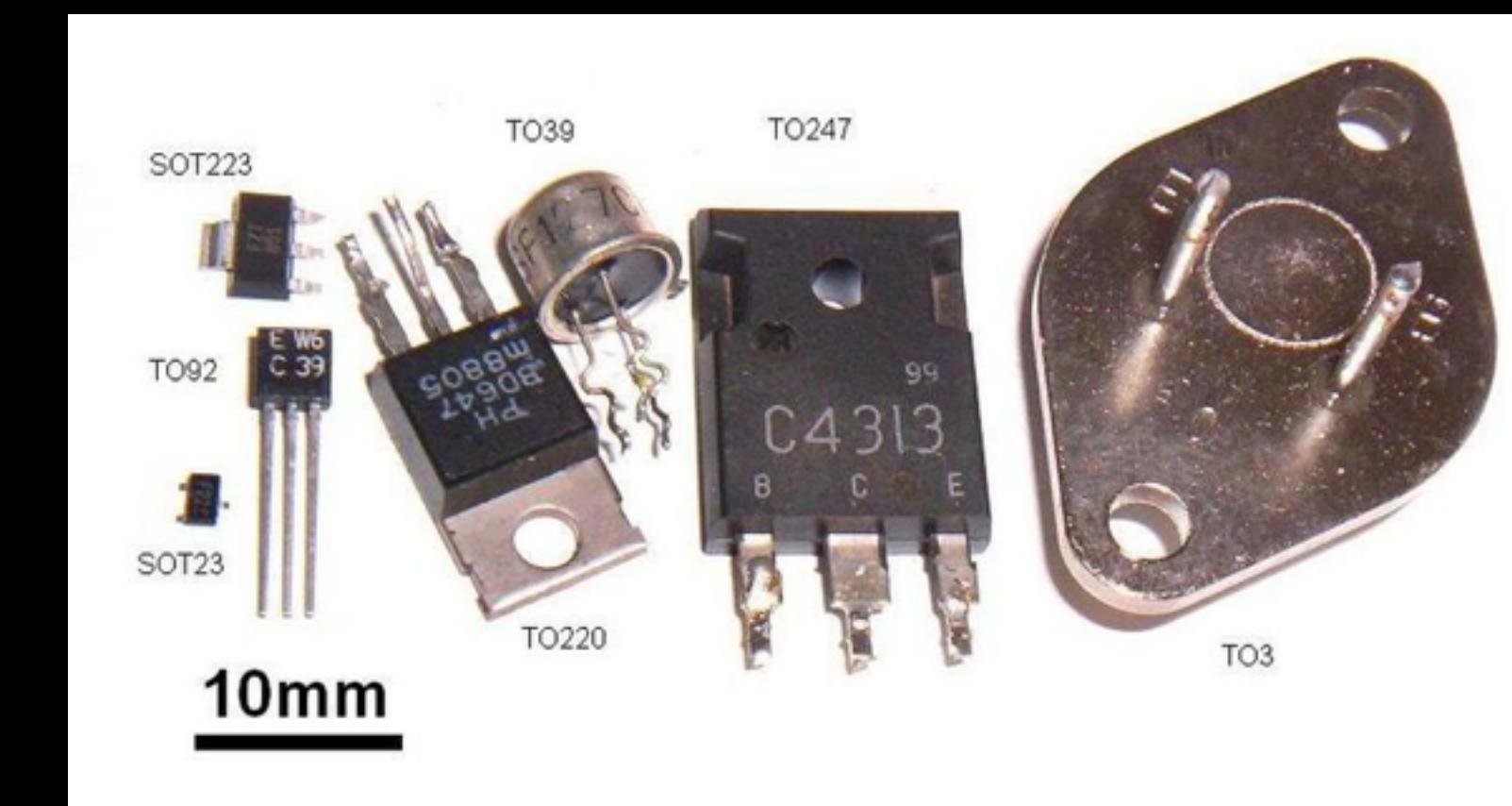
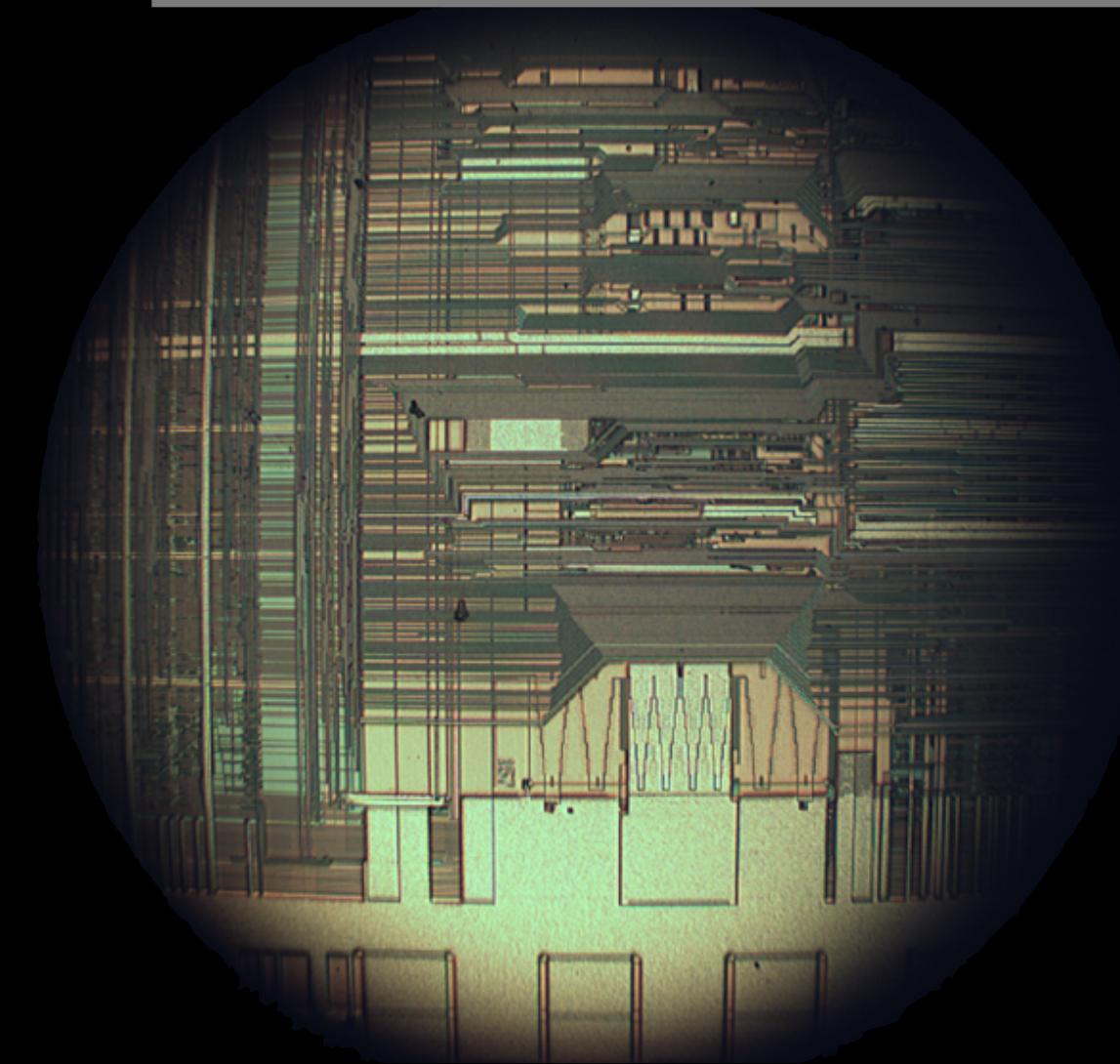
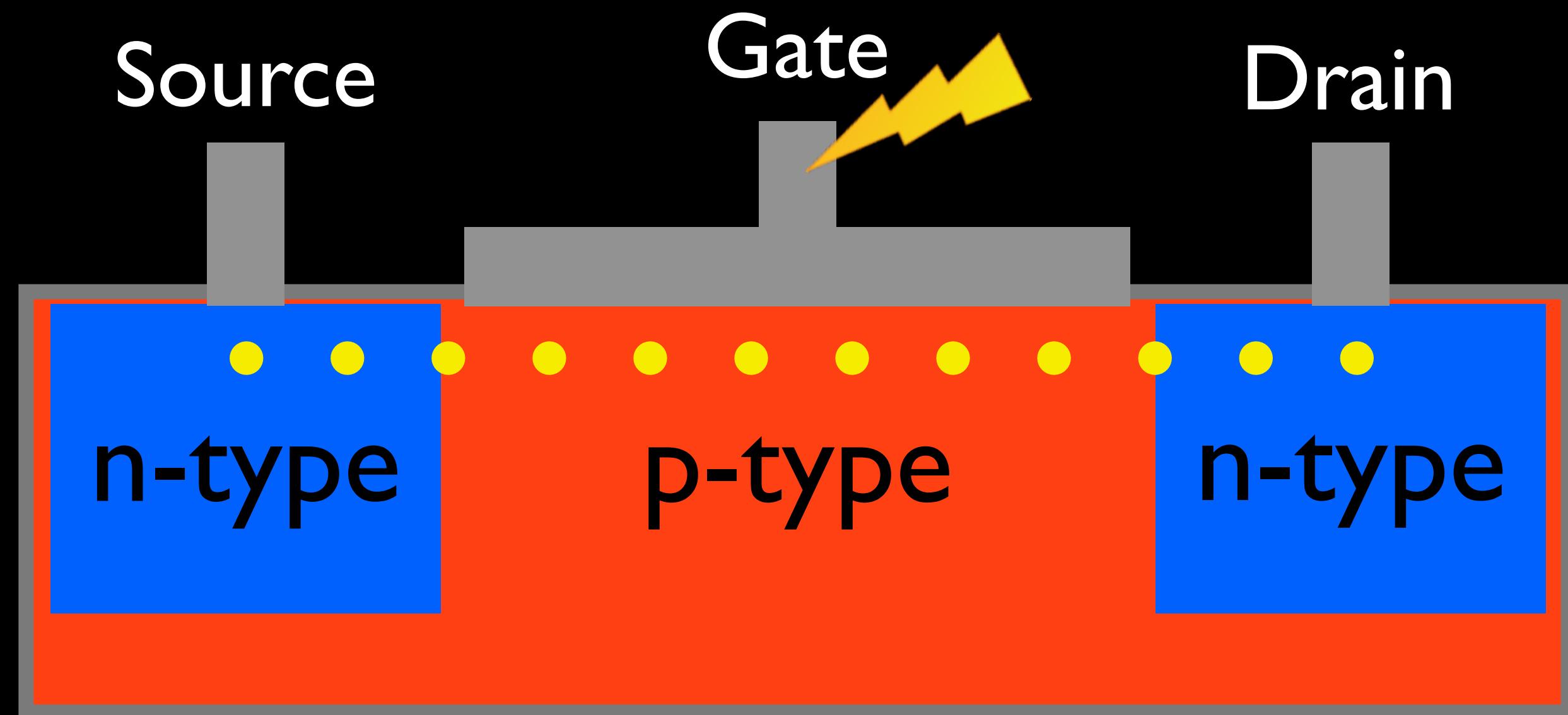
p-type  
doping



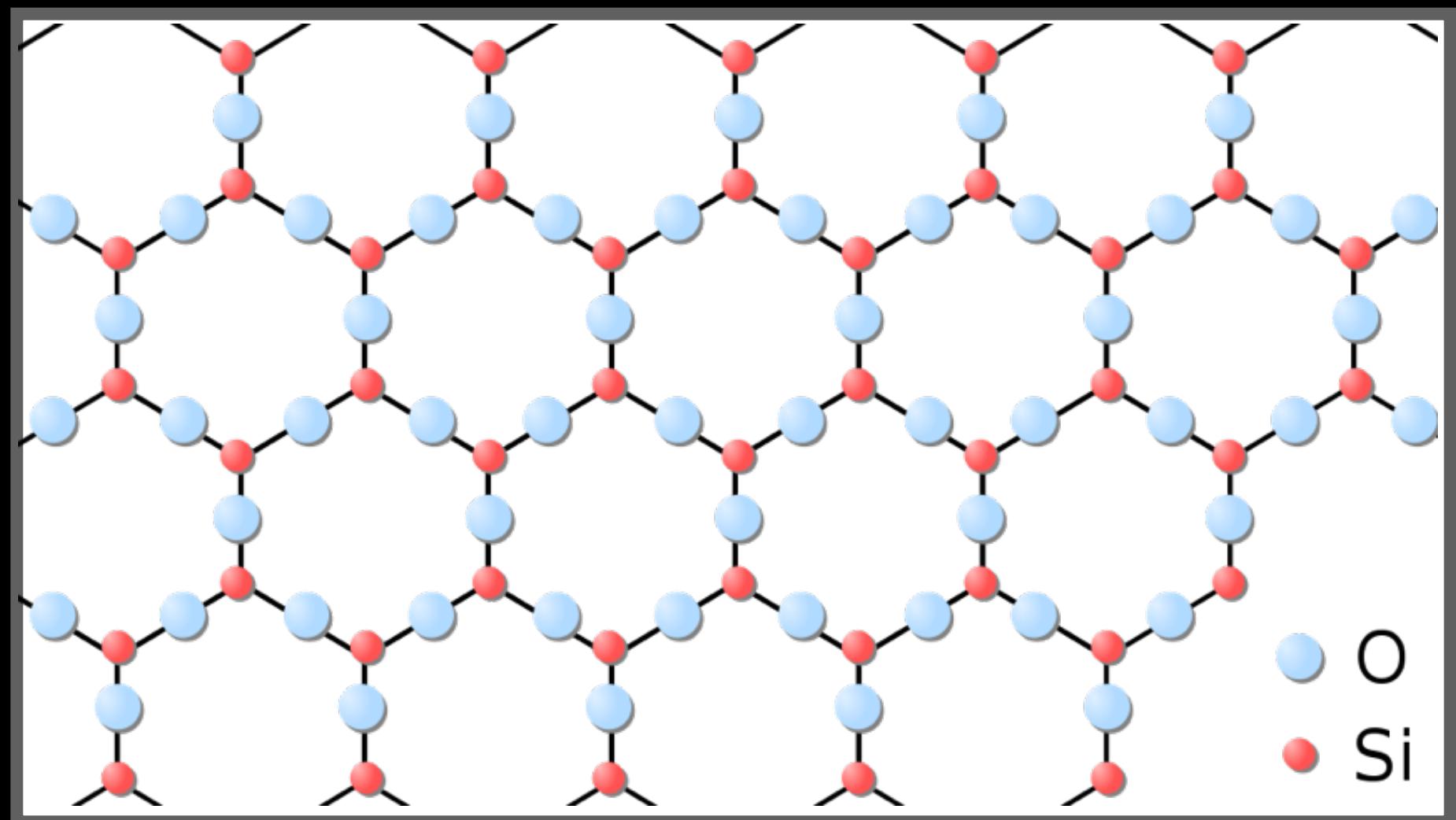
# Doping

$3e^-$	$4e^-$	$5e^-$
5 <b>B</b> Boron 10.81	6 <b>C</b> Carbon 12.01	7 <b>N</b> Nitrogen 14.01
13 <b>Al</b> Aluminum 26.98	14 <b>Si</b> Silicon 28.09	15 <b>P</b> Phosphorus 30.97

# Transistor

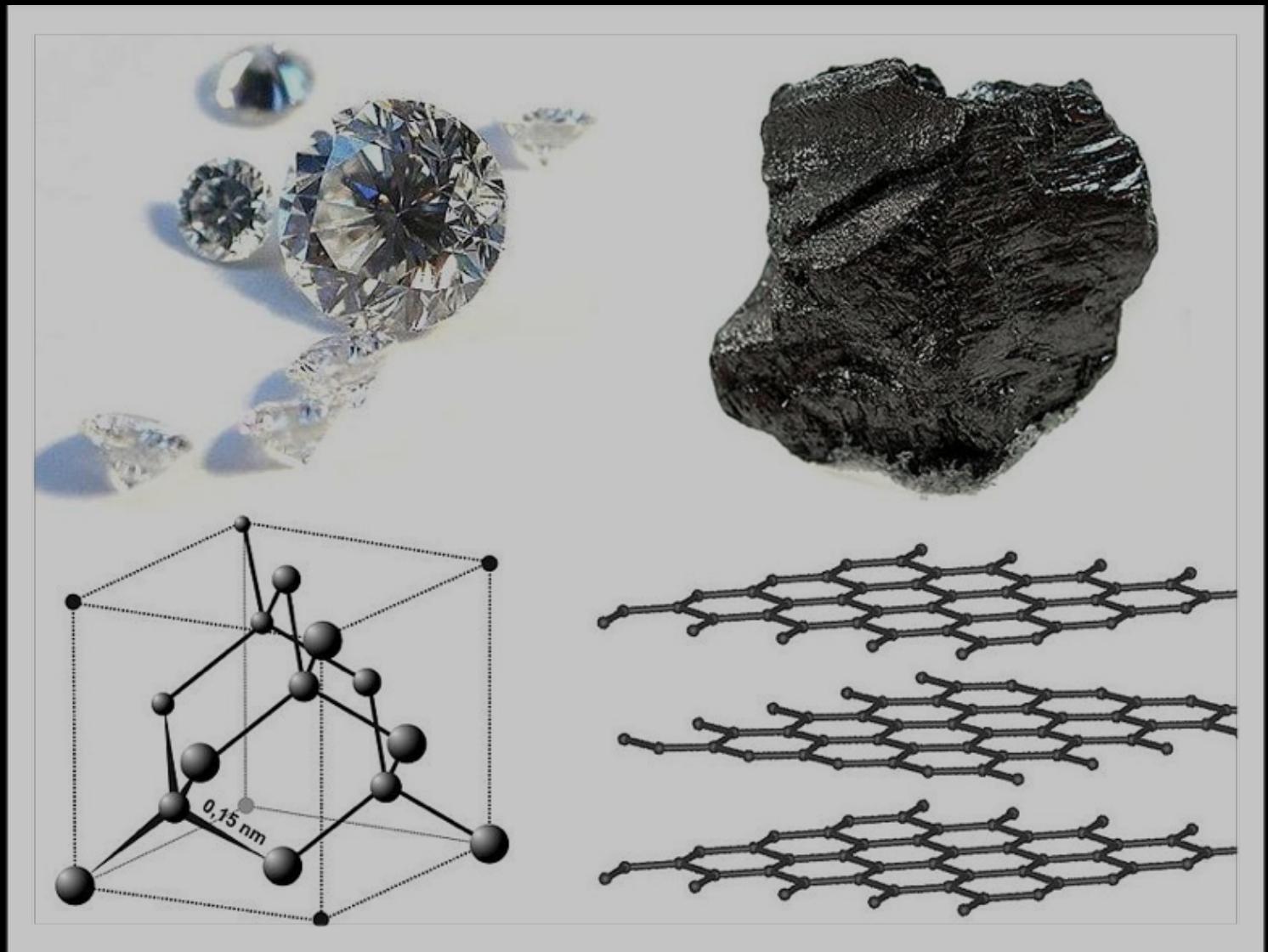


# Did you learn?



To create an covalent network  
solid representation.

# Did you learn?



To relate the characteristics on a covalent network solid to the interactions at the atomic level.

## Acknowledgements

Connormah. *English: MAde by Me in AICS3*, [object HTMLTableCellElement]. Own work. <http://commons.wikimedia.org/wiki/File:Lightning--.svg>.  
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