

به نام خدا



مرکز دانلود رایگان
مهندسی متالورژی و مواد

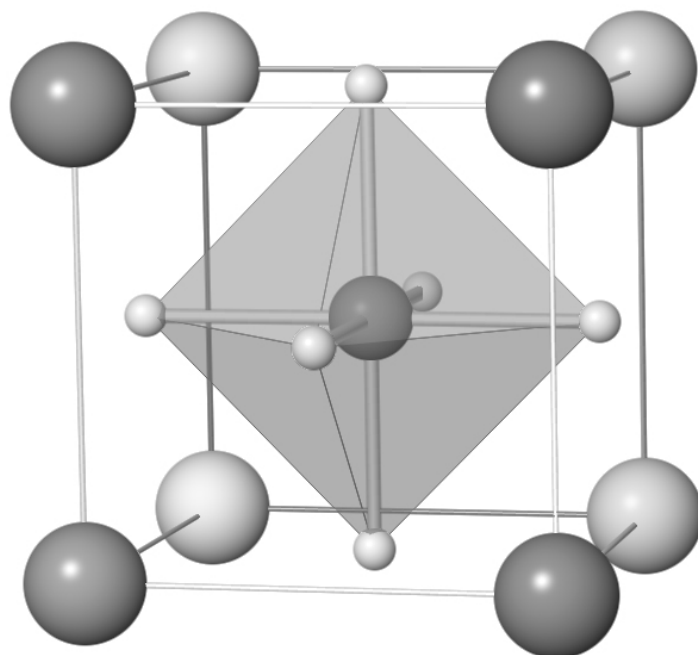
www.Iran-mavad.com



Steffen Weber's

Crystallography Picture Book

Crystal Structures



Preface

This is volume five in the series of picture books that I am creating for educational purposes. All images in this volume were created using the program *JPOWD from MDI* (www.materialsdata.com). The structures presented here correspond to the crystal structure gallery on my website (www.jcrystal.com/steffenweber/gallery/StructureTypes/st1.html). On that website you can also find further data, such as unit cell parameters and atom coordinates .

I recommend using Acrobat Reader 6.0 or higher, because these newer versions feature image smoothing.

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December 15, 2004
Livermore, California
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Contents

Elements

W - type (bcc)	C - Diamond	As (grey)	α -Po
Cu - type (fcc)	C - Graphite	α -S ₈	I ₂
Mg - type (hcp)	P (white)	Se (grey)	

AB

NaCl	ZnS - Sphalerite	NiAs	PbO (red)
CsCl	ZnS - Wurtzite	α - BN	PtS

AB₂

CaF ₂	CdI ₂	SiO ₂ - Tridymite	Cu ₂ O
TiO ₂ - Rutile	SiO ₂ - Quartz	MgCu ₂	MoS ₂
CdCl ₂	SiO ₂ - Cristobalite	AlB ₂	FeS ₂ - Pyrite

AB₃

ReO ₃	MoCl ₃	ZrI ₃	VF ₃
CrCl ₃	Cu ₃ Au		

A₂B₃

Al₂O₃ - corundum

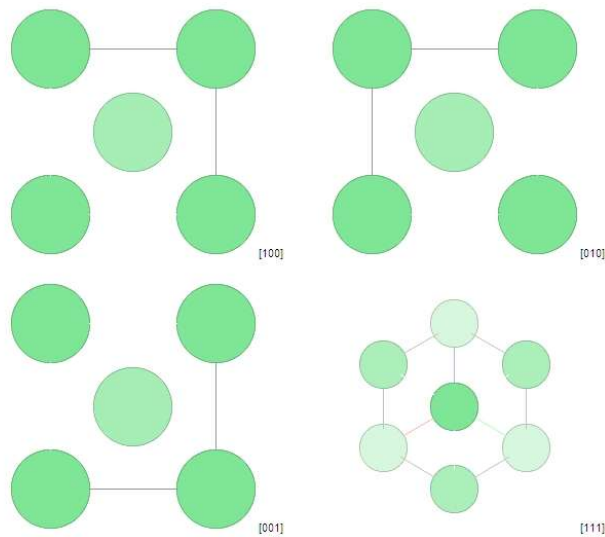
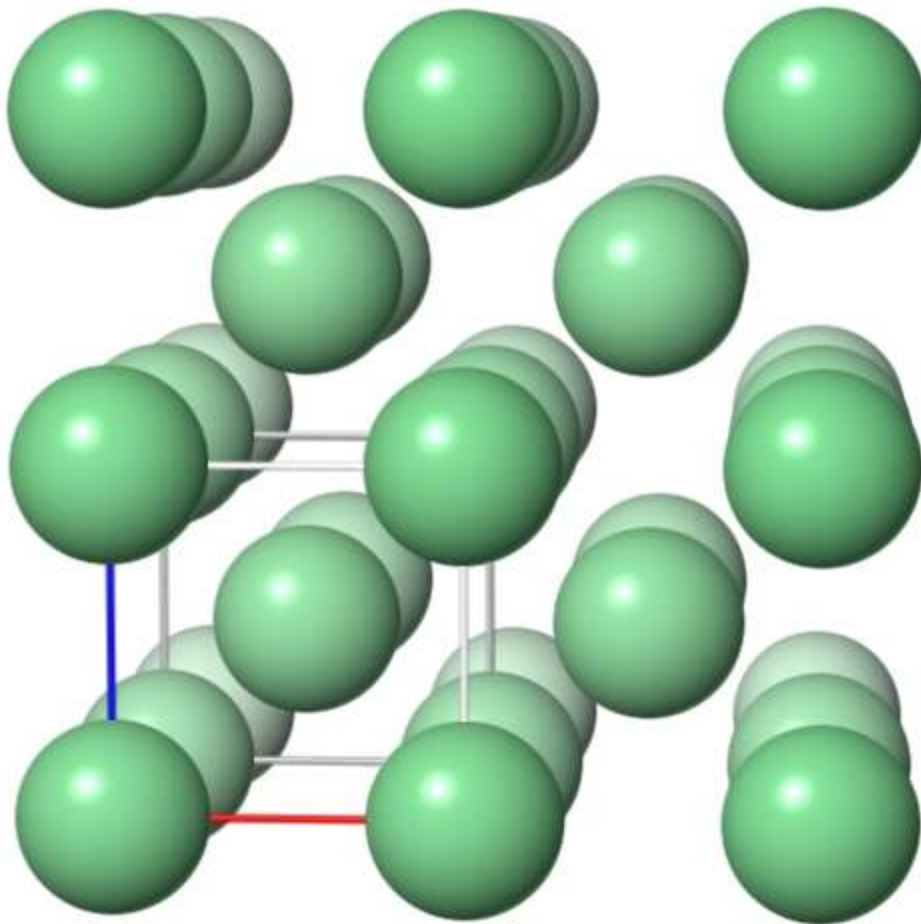
A₃B₄

MgAl₂O₃ - spinel

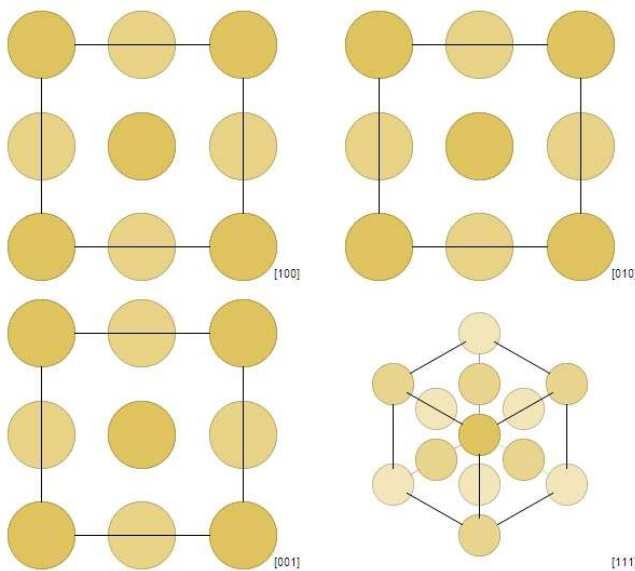
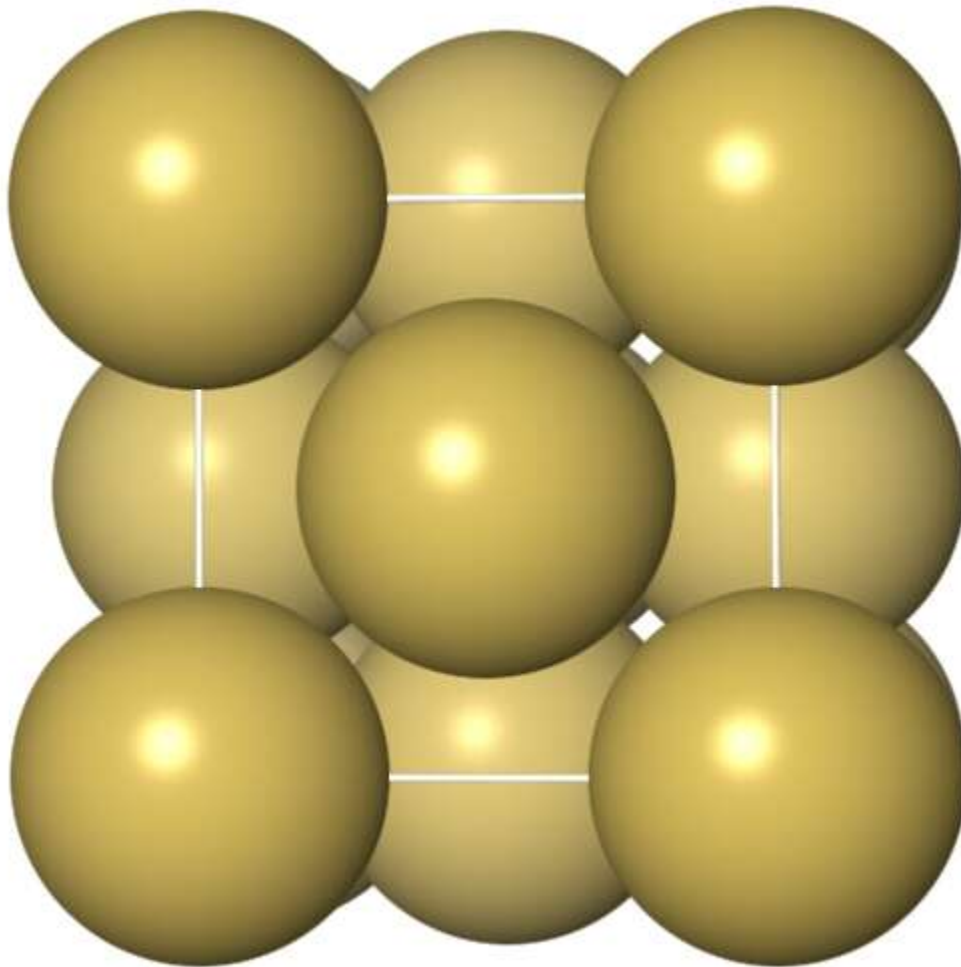
Others

Olivine	TiOBr	Ilmenite	Aragonite
Granate	Perovskite	Calcite	

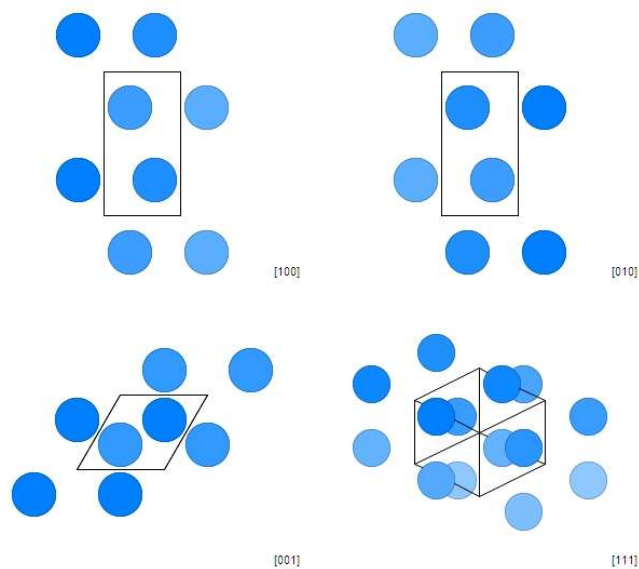
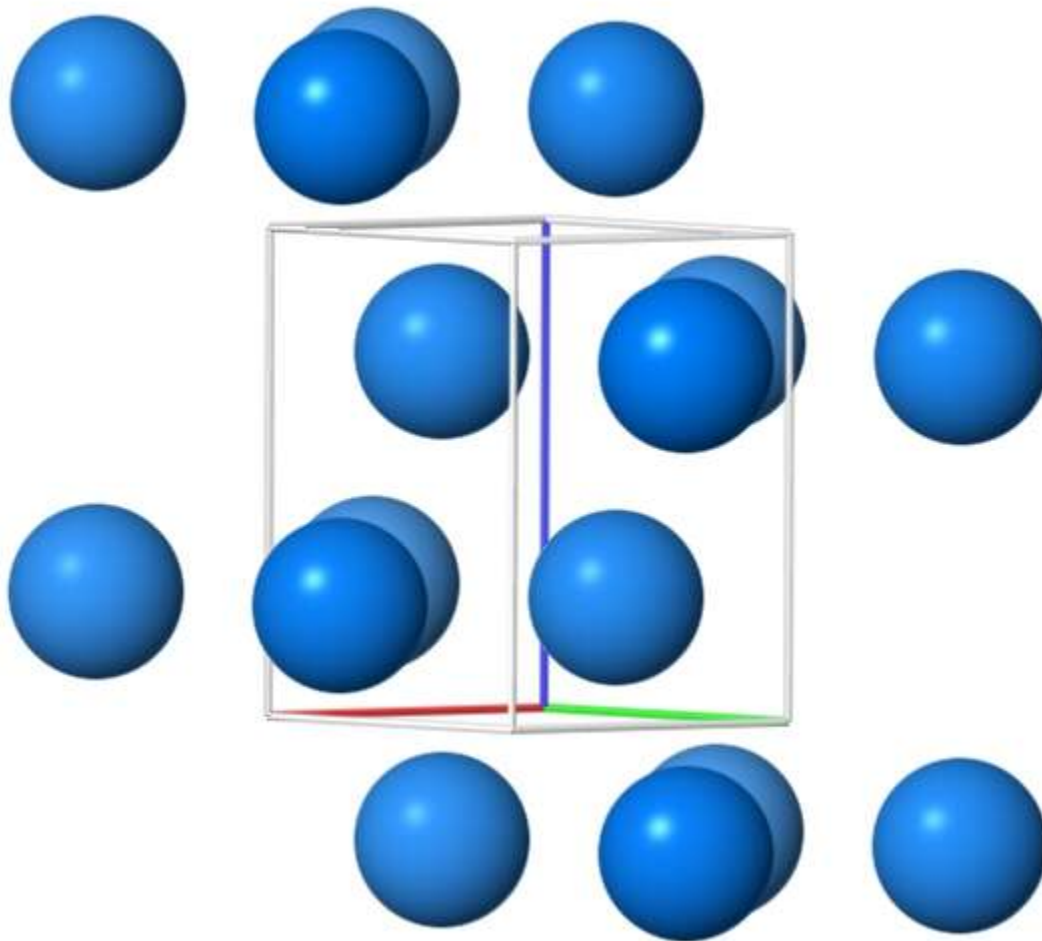
W (Elements, Tungsten)



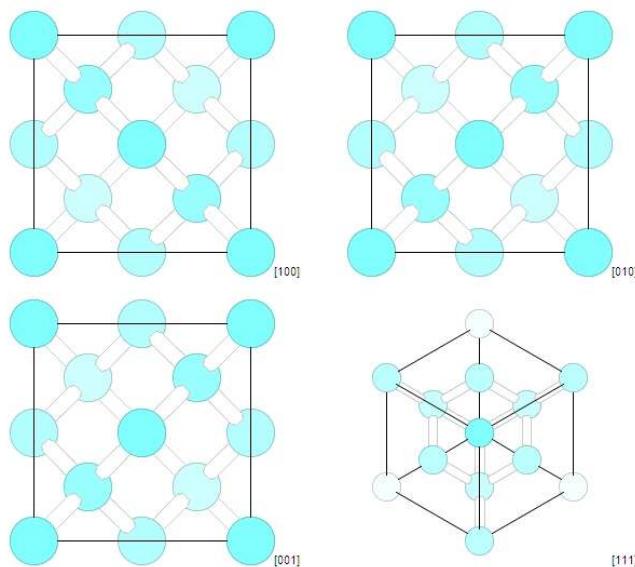
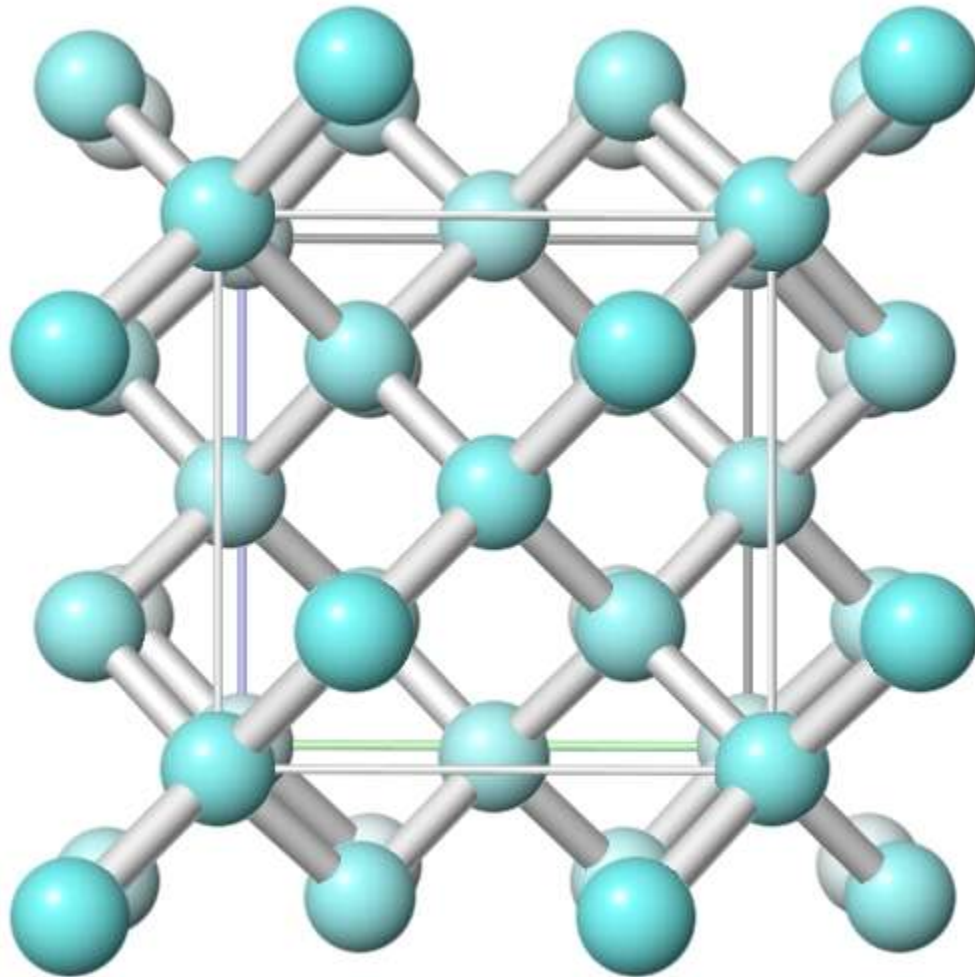
Cu (Elements, Copper)



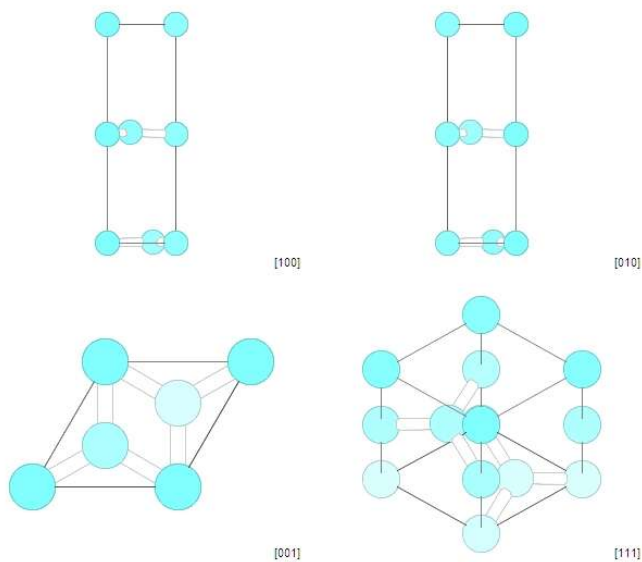
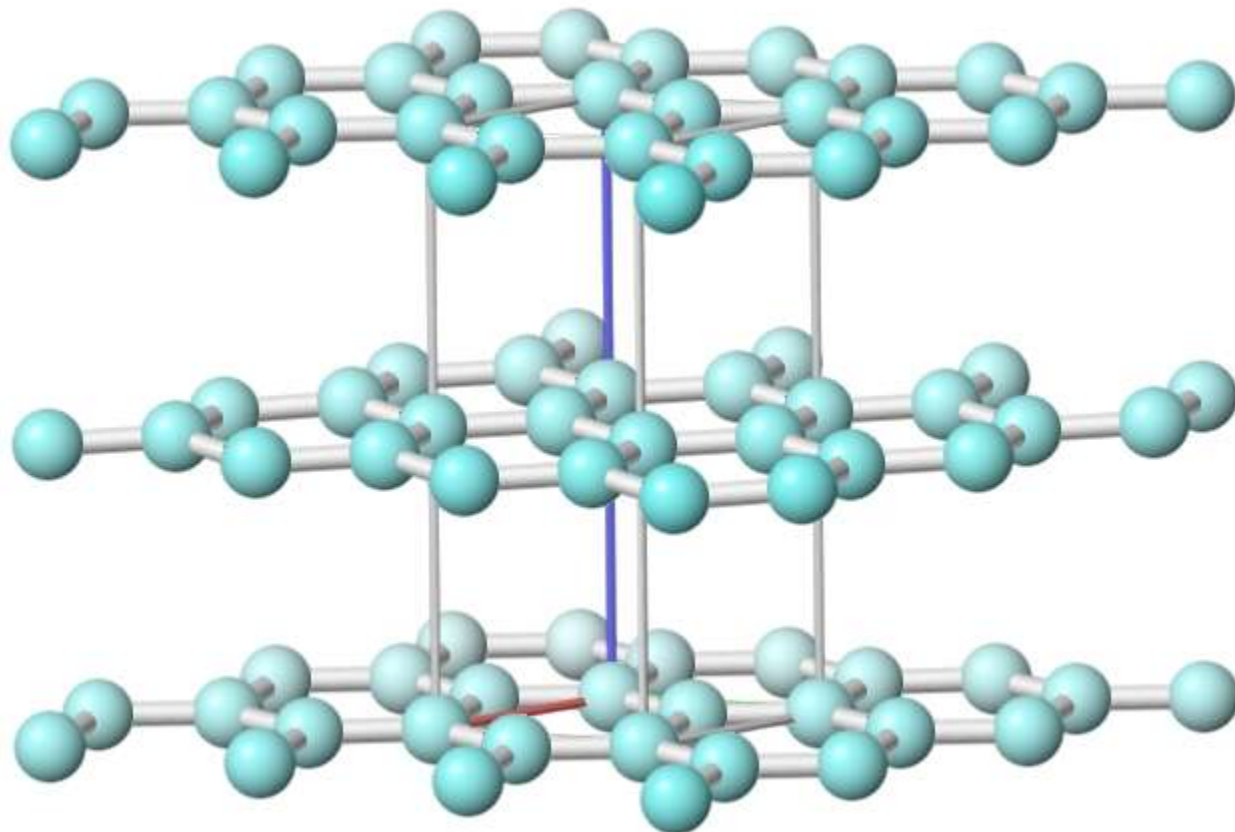
Mg (Elements, Magnesium)



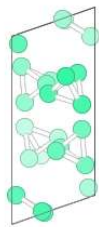
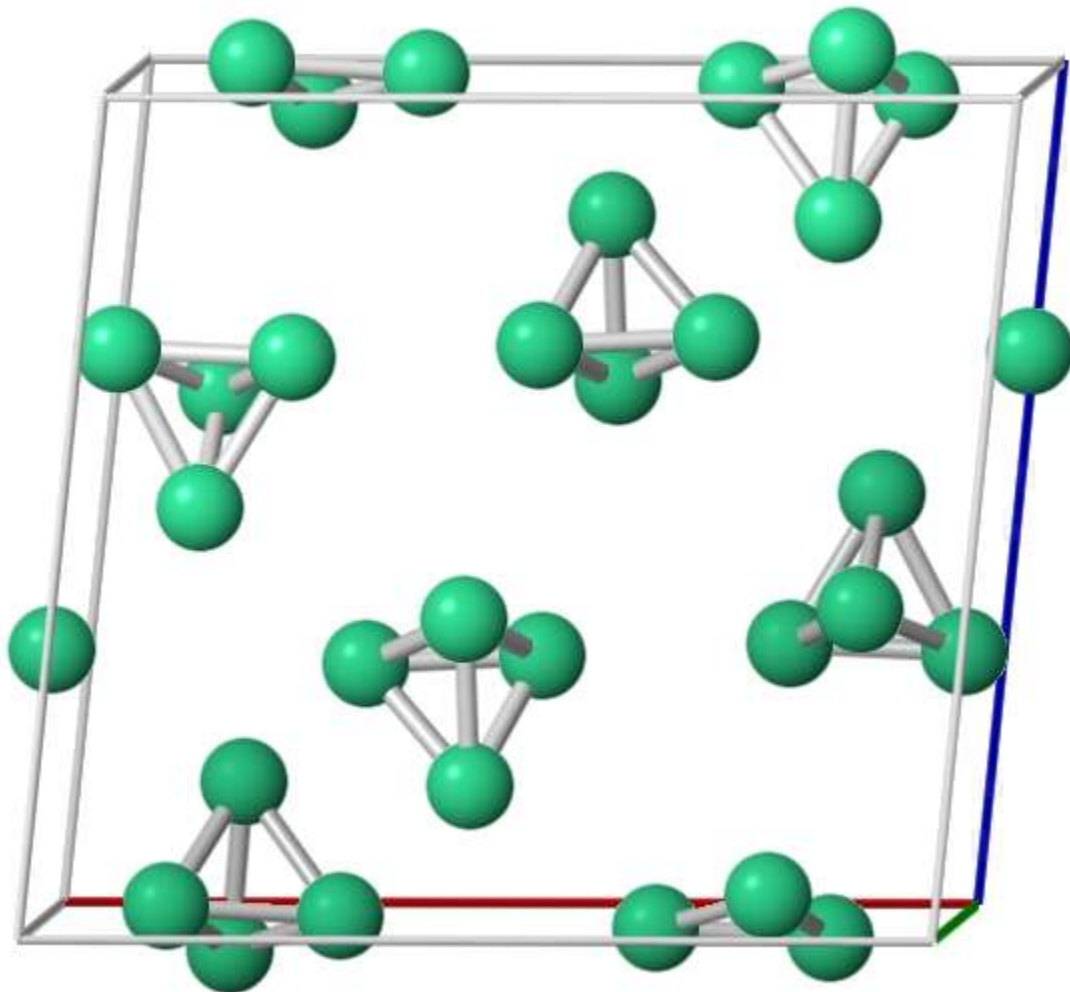
C (Elements, Diamond)



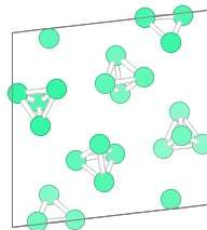
C (Elements, Graphite)



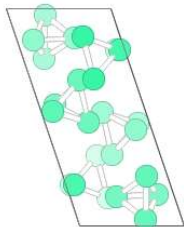
P (Elements, Phosphorous-white)



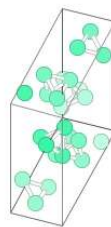
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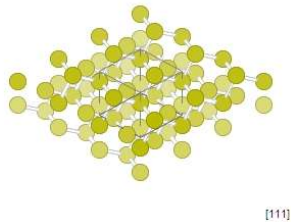
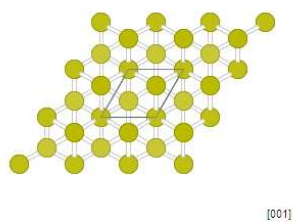
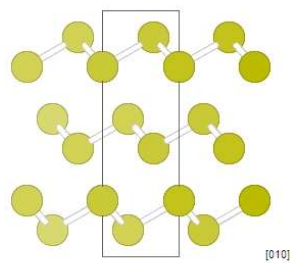
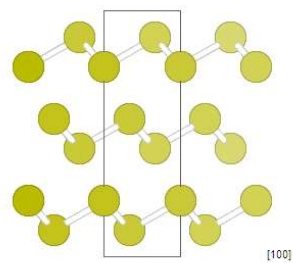
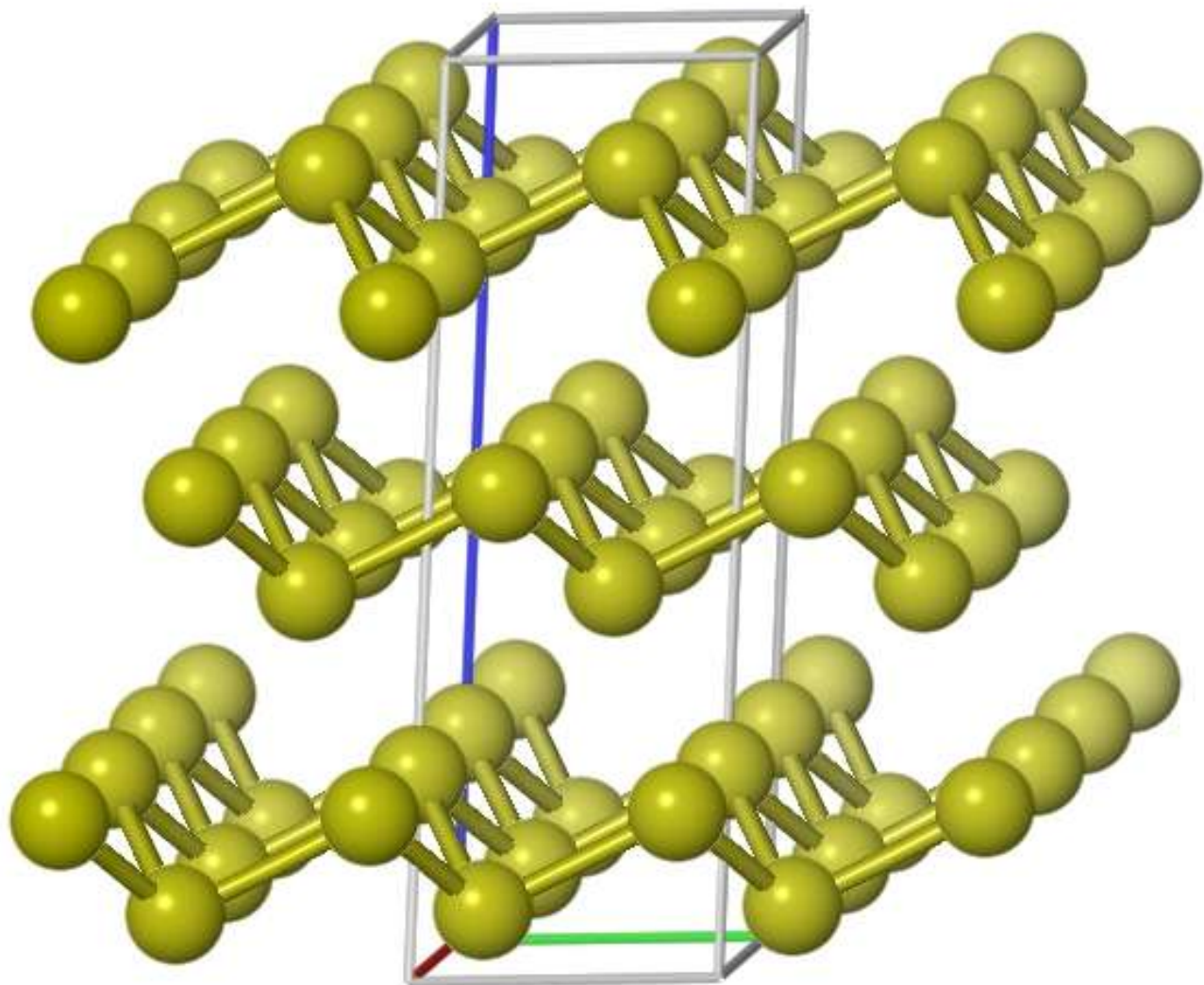


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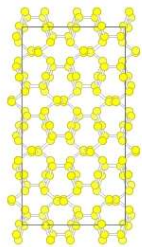
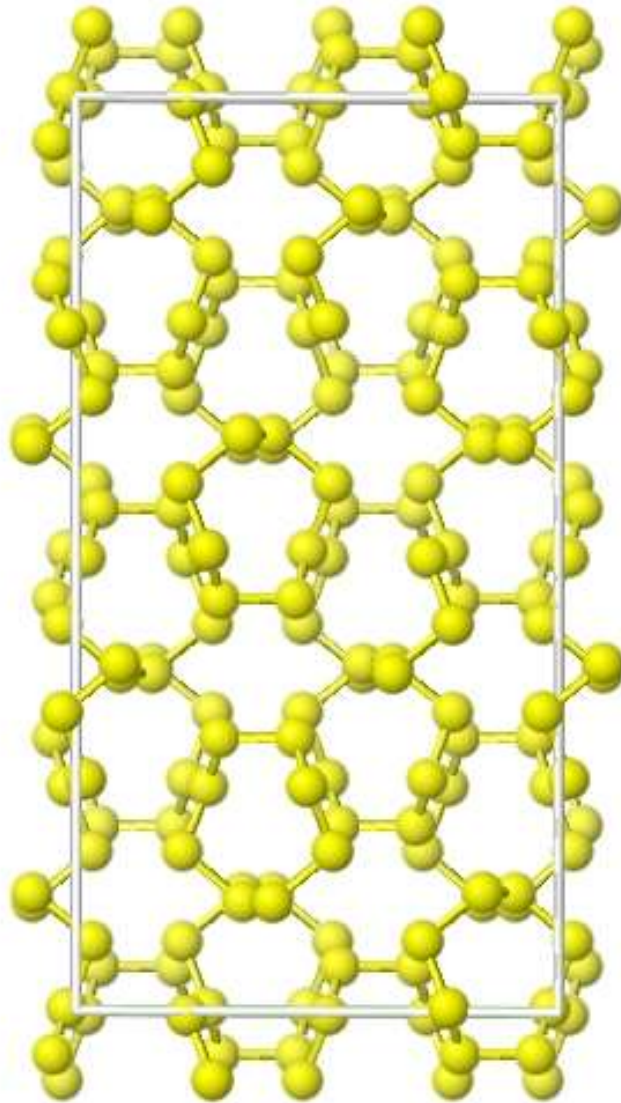


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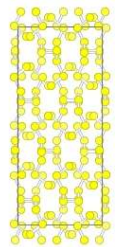
As (Elements, Arsenic-grey)



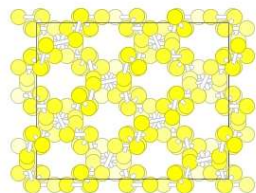
α -S₈ (Elements, Sulphur)



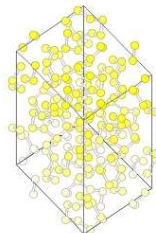
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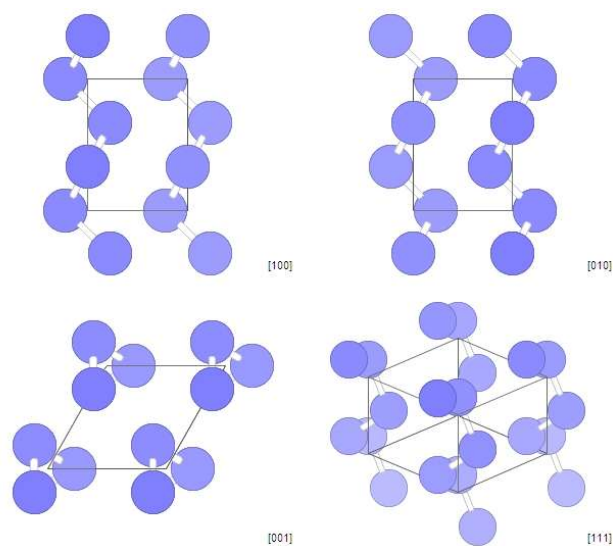
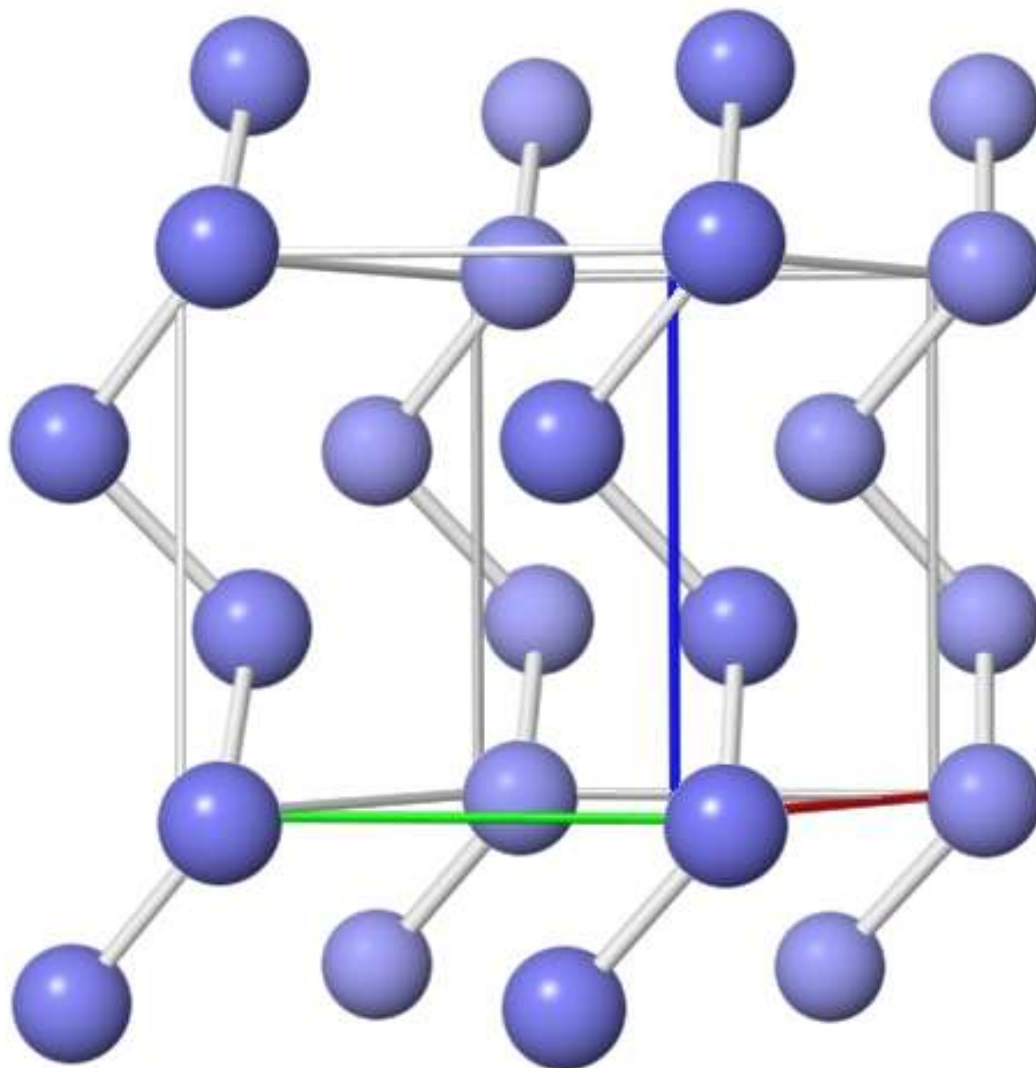


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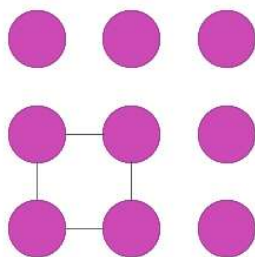
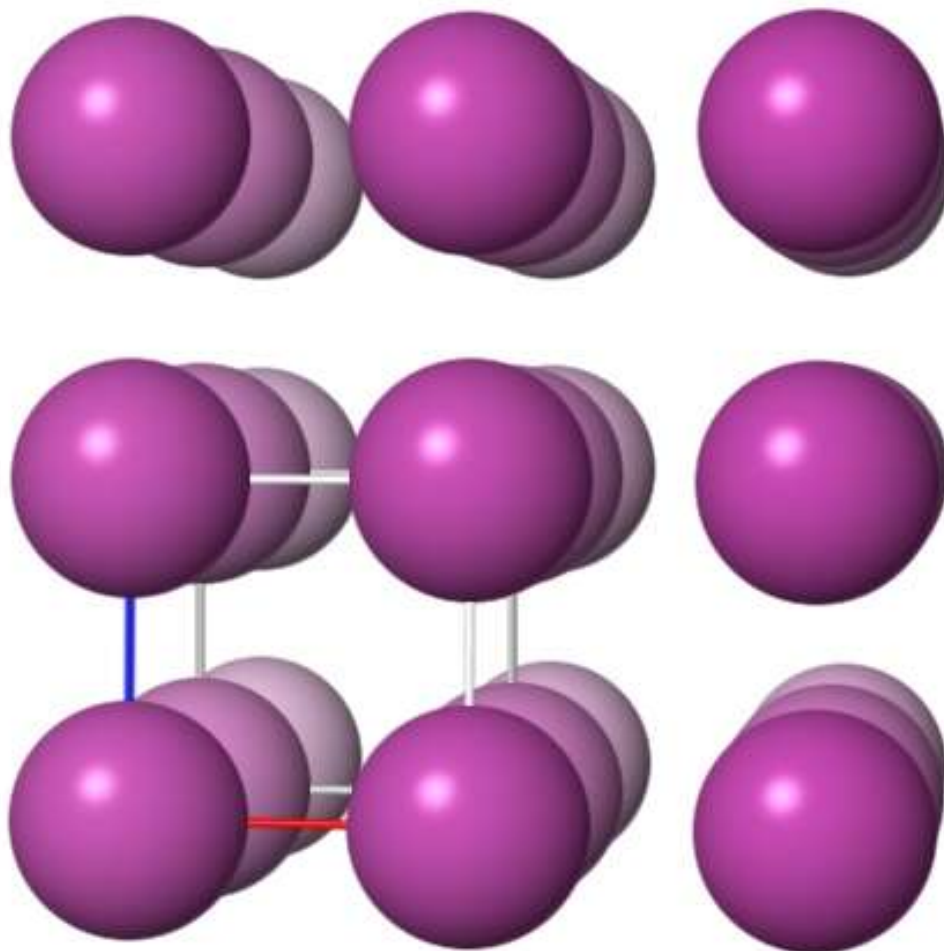


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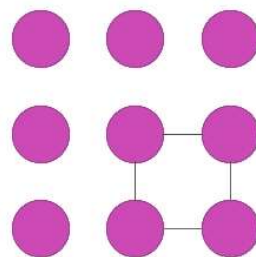
Se (Elements, Selenium-grey)



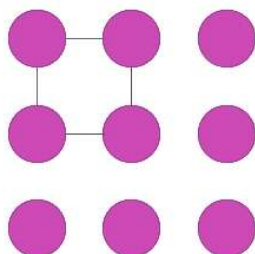
α -Po (Elements, Polonium)



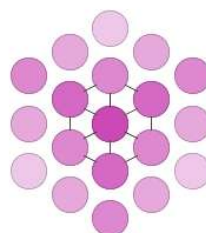
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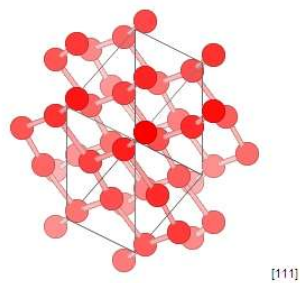
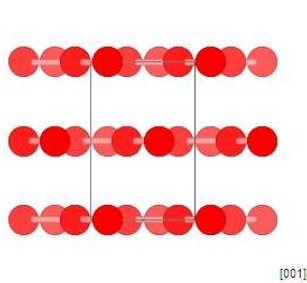
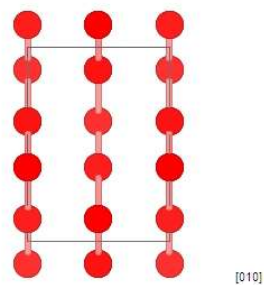
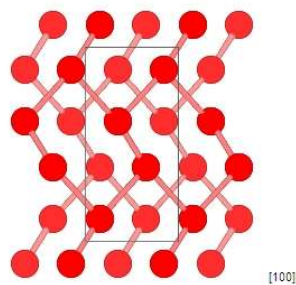
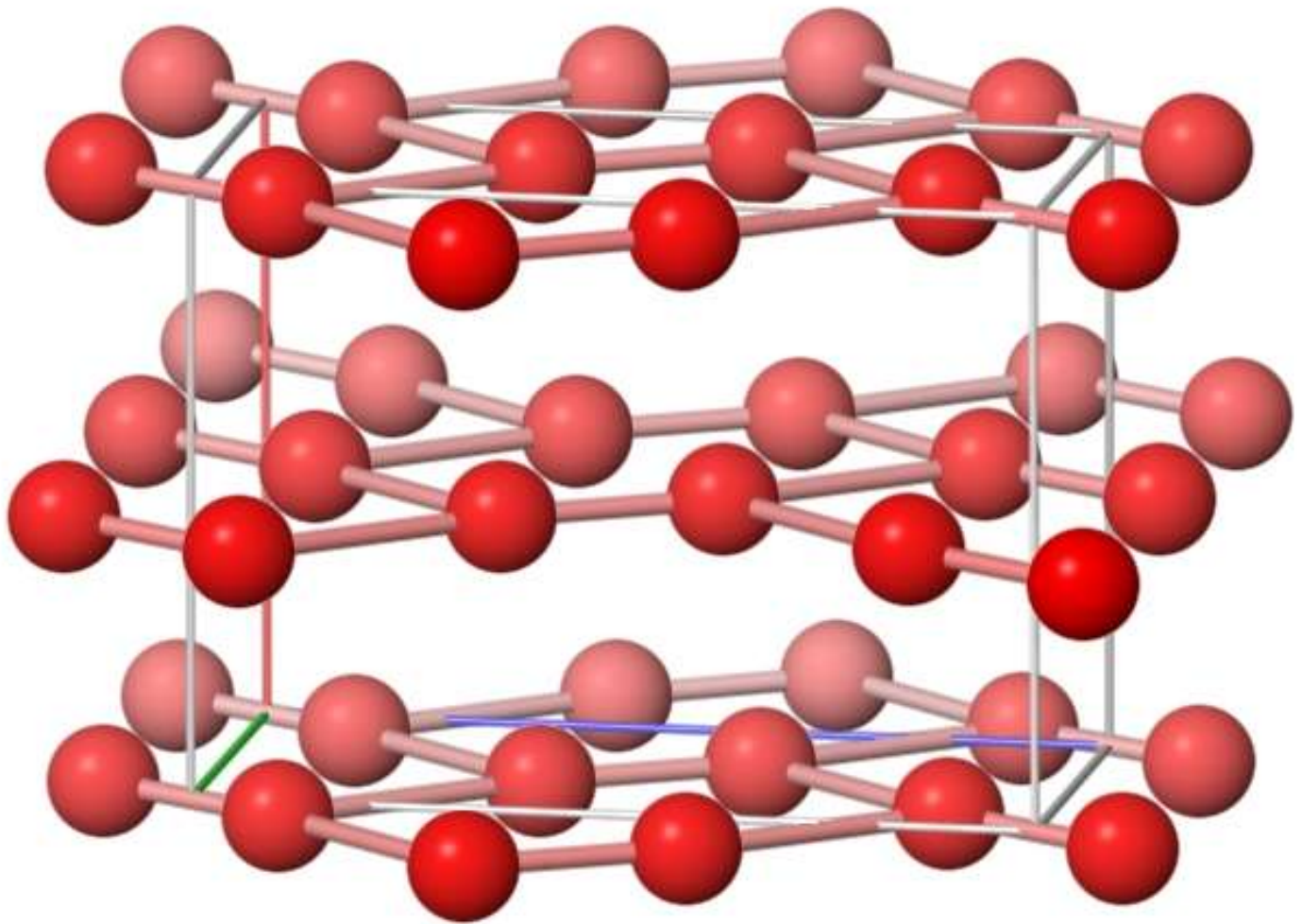


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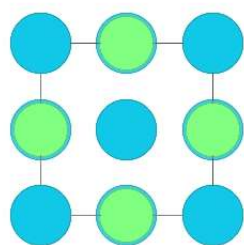
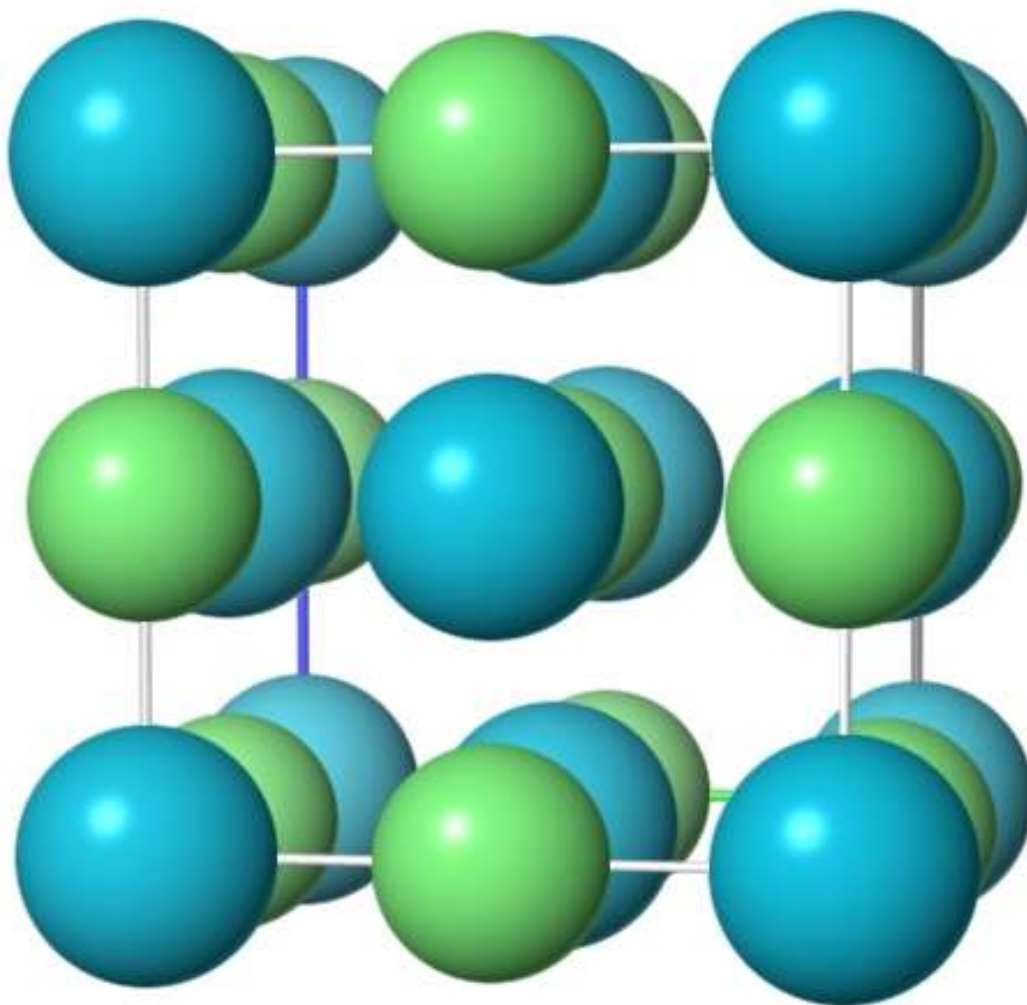


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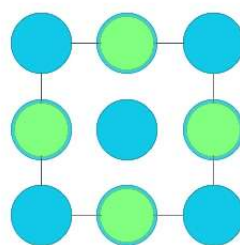
I_2 (Elements, Iodine)



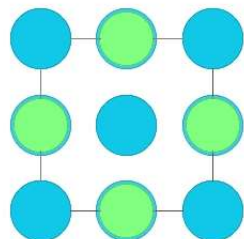
NaCl (*AB, Halite*)



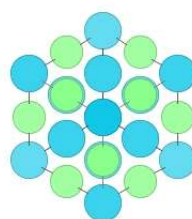
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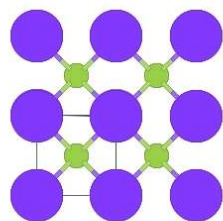
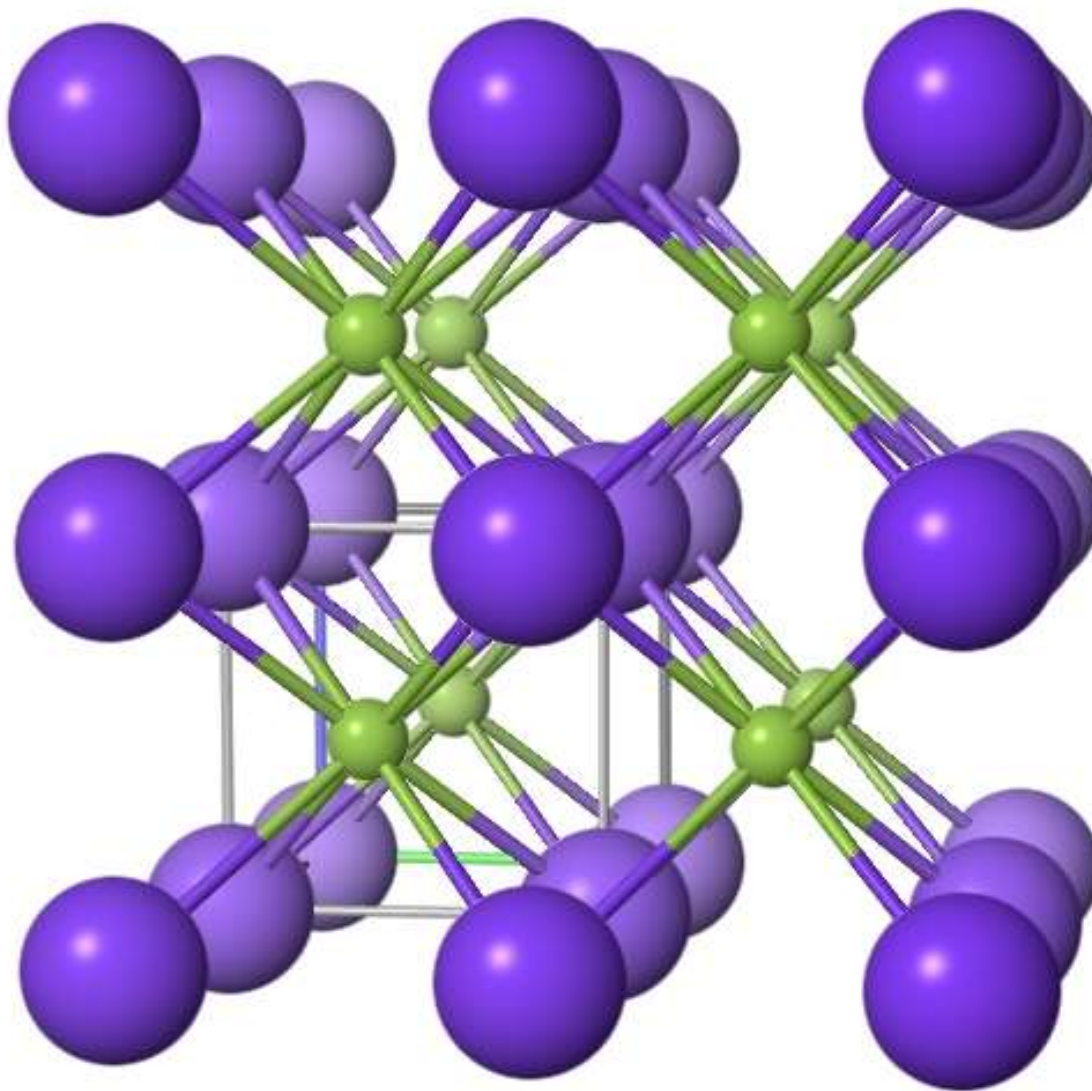


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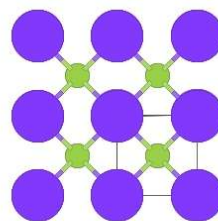


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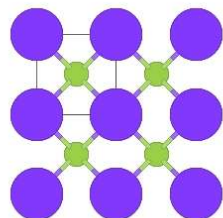
$CsCl$ (AB)



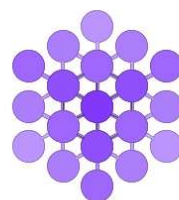
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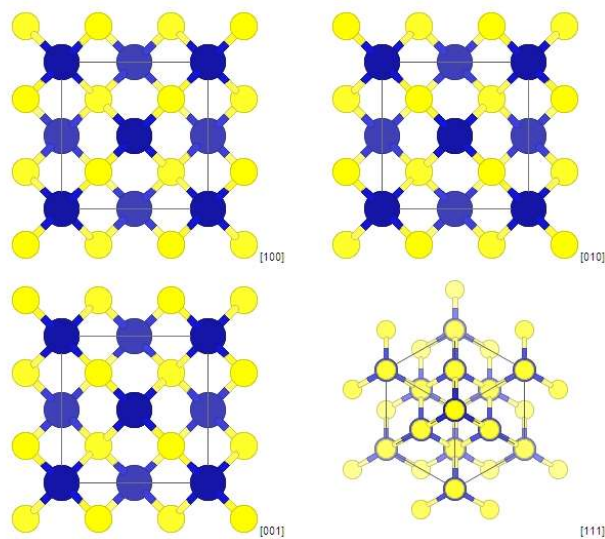
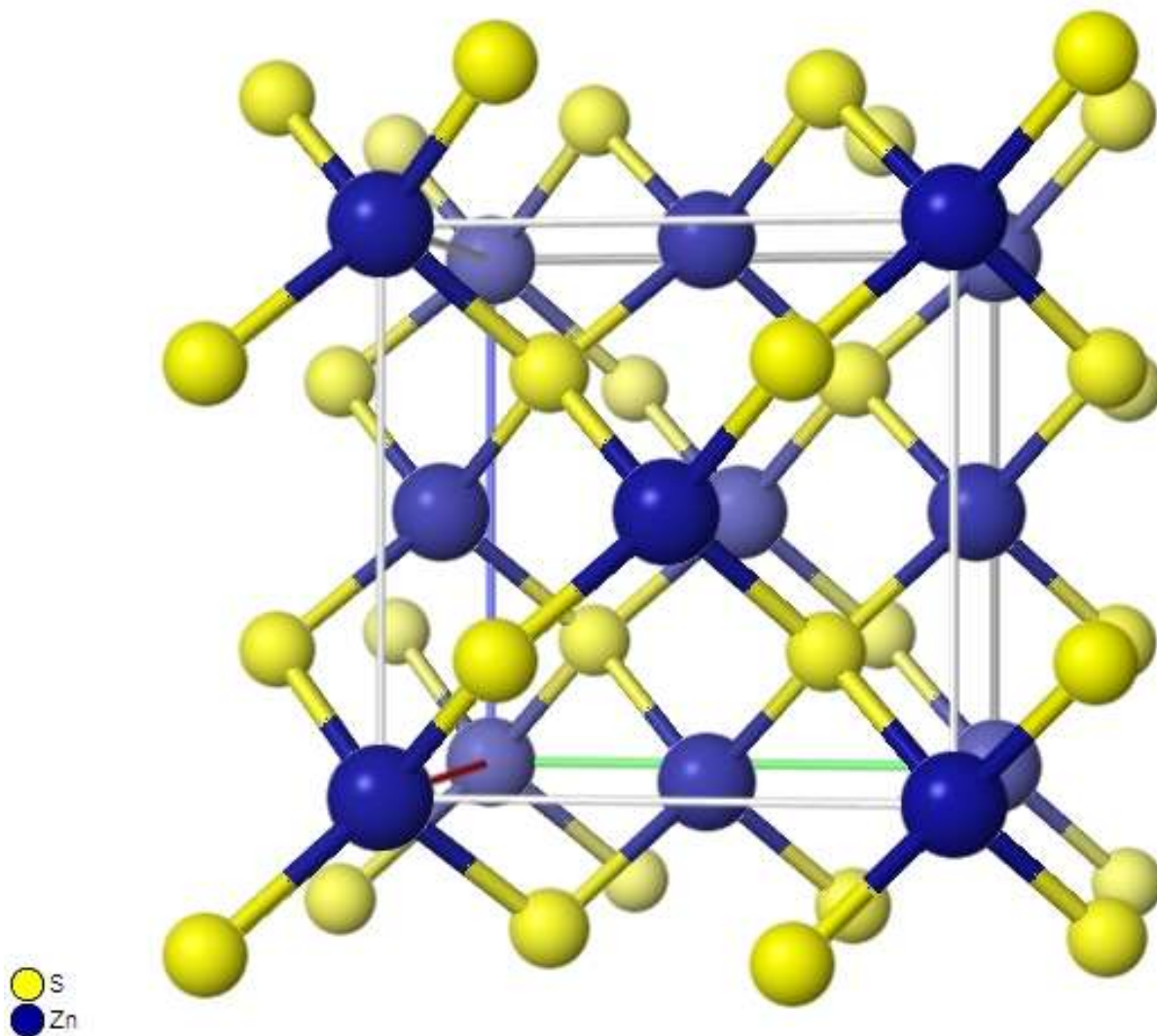


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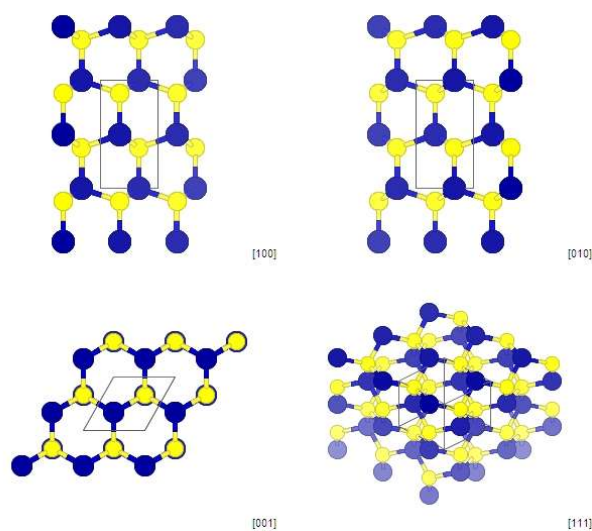
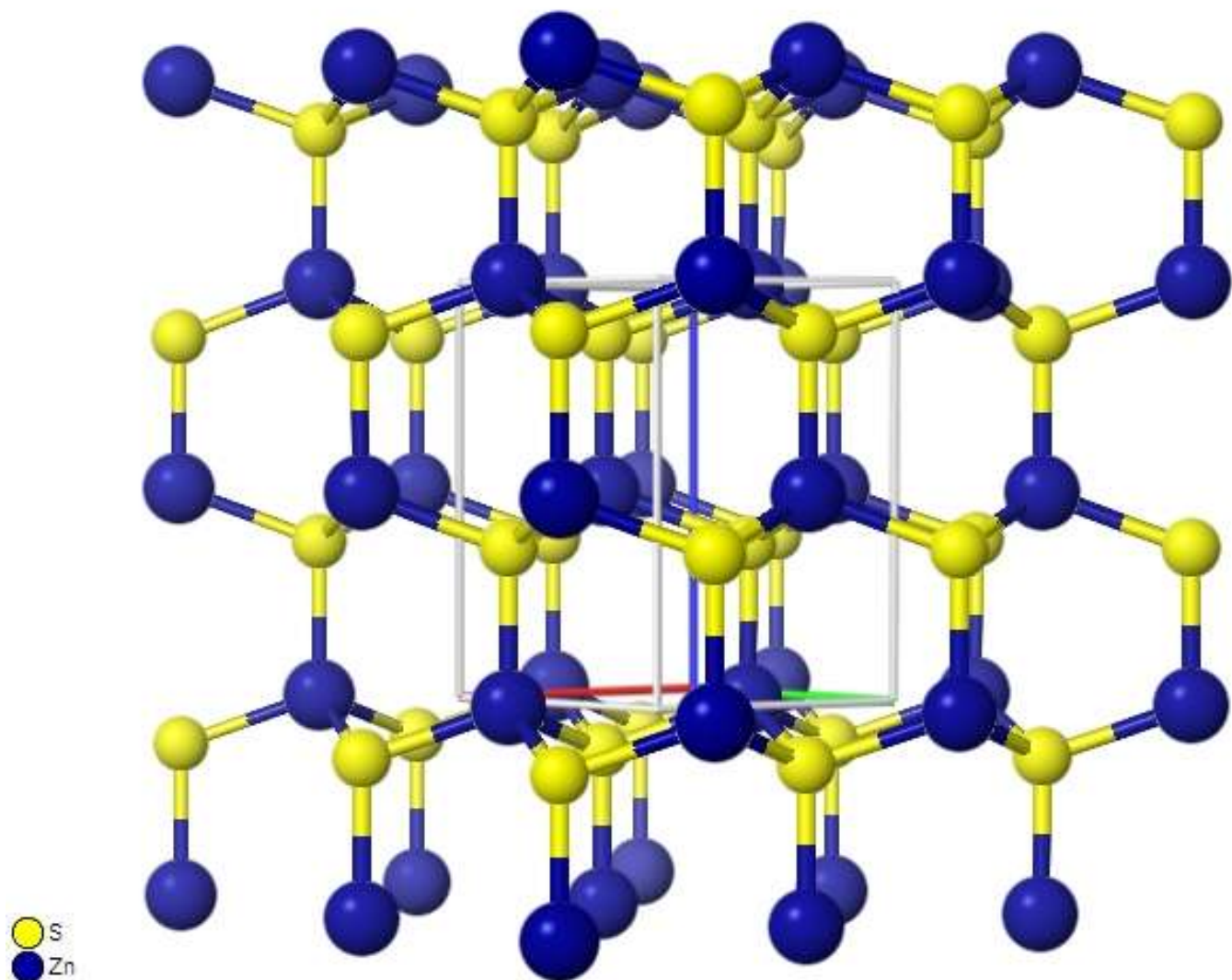


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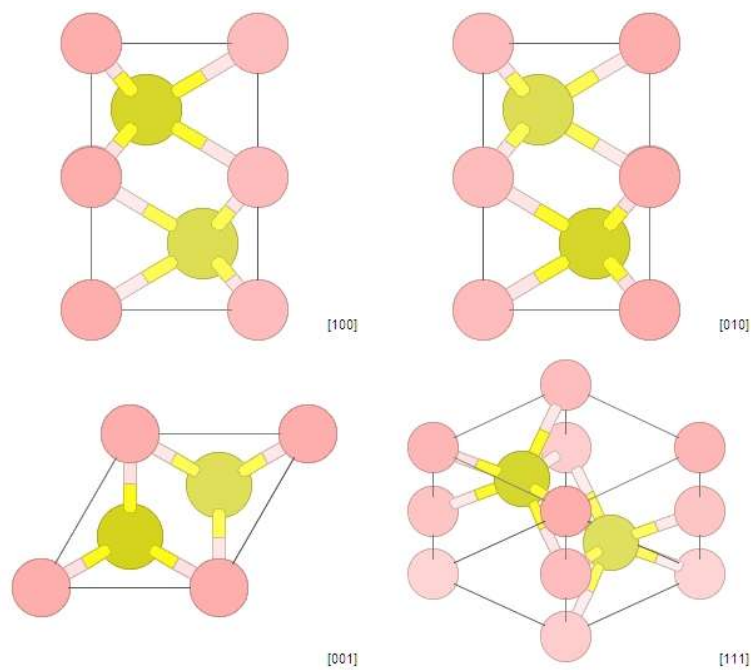
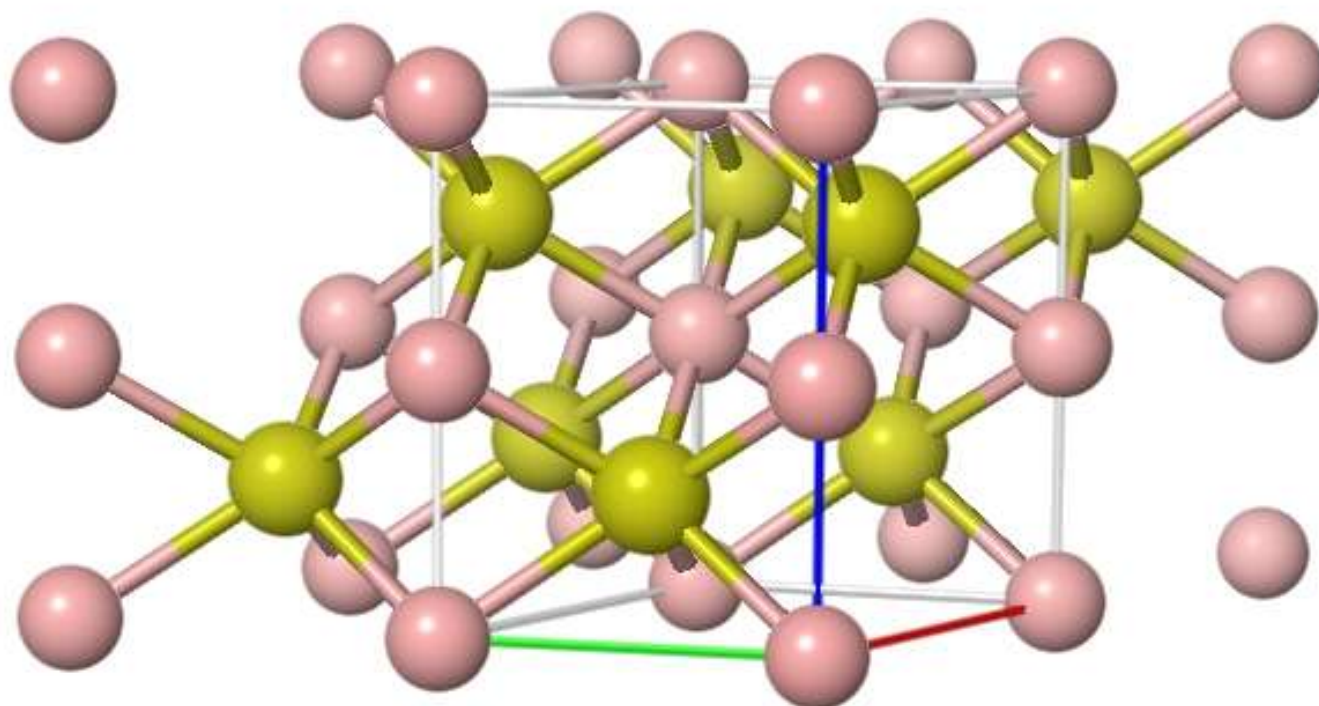
ZnS (*AB, Sphalerite*)



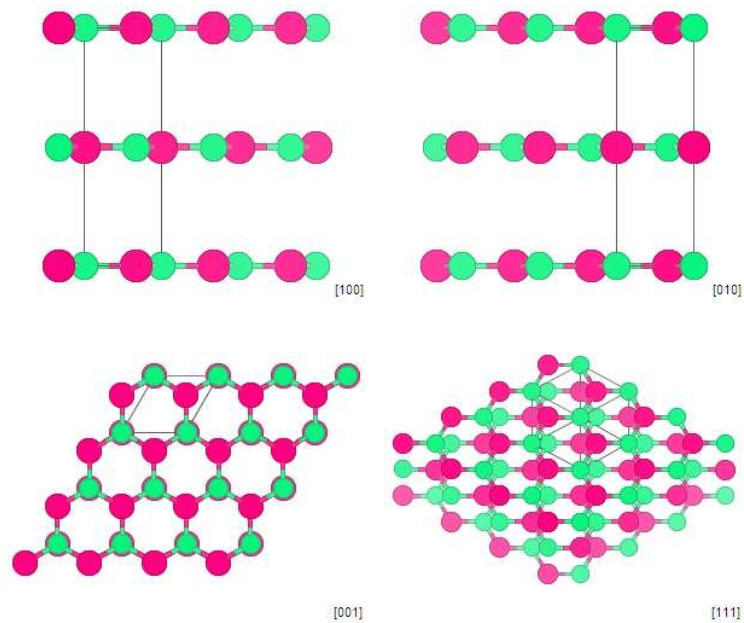
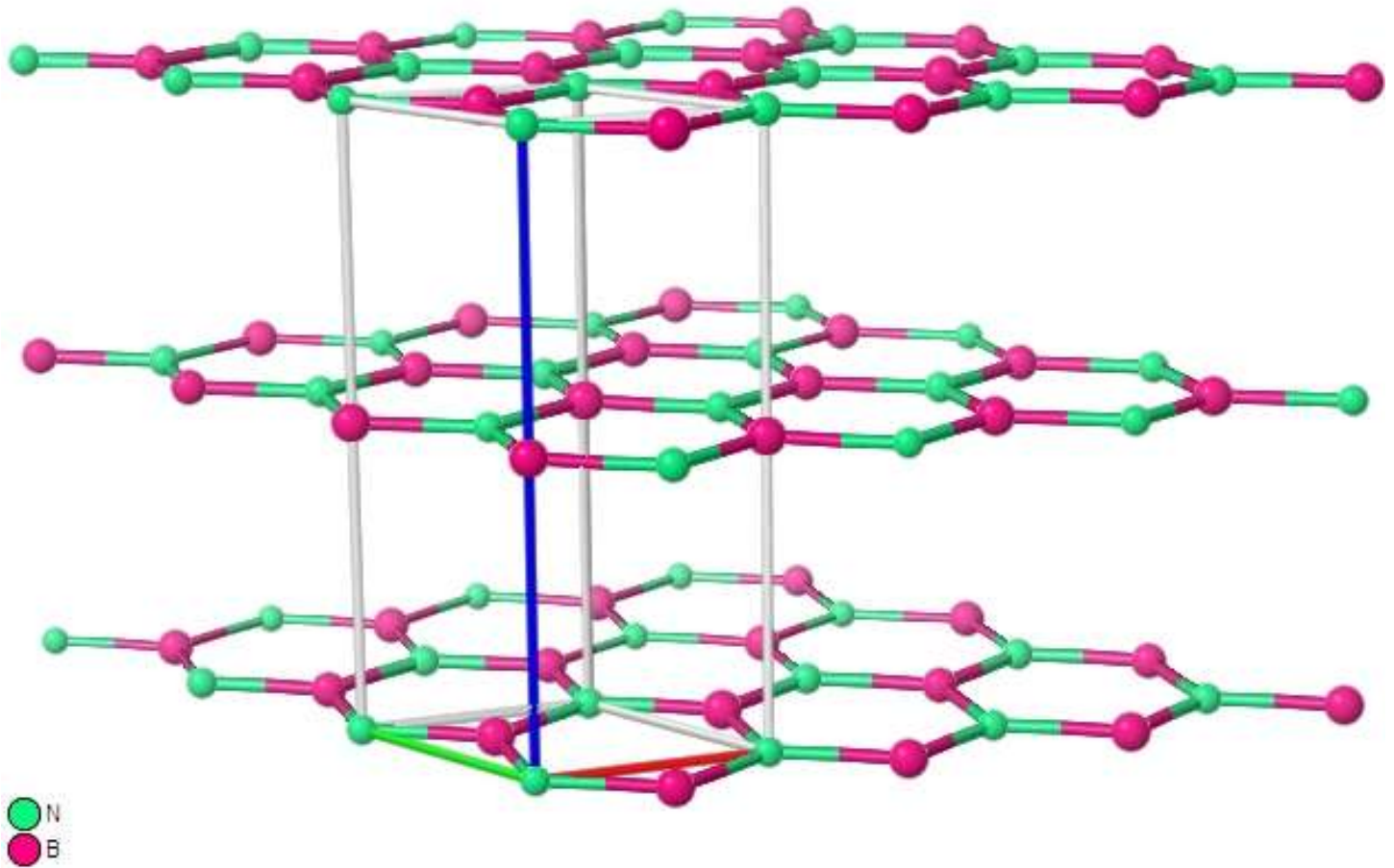
ZnS (*AB*, Wurtzite)



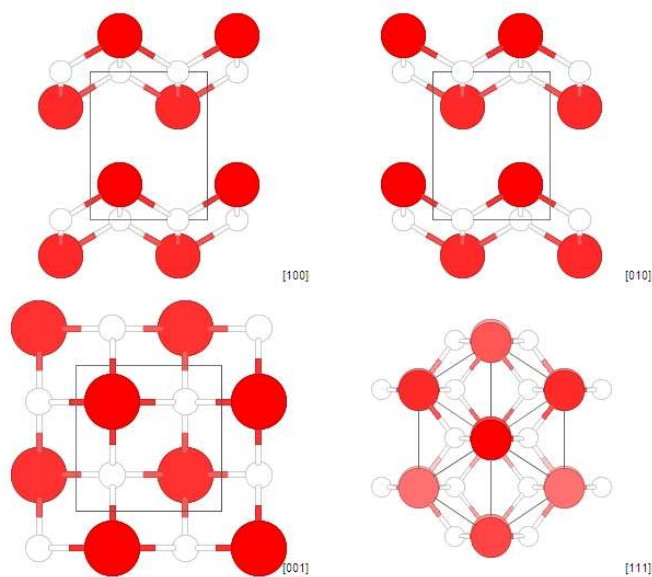
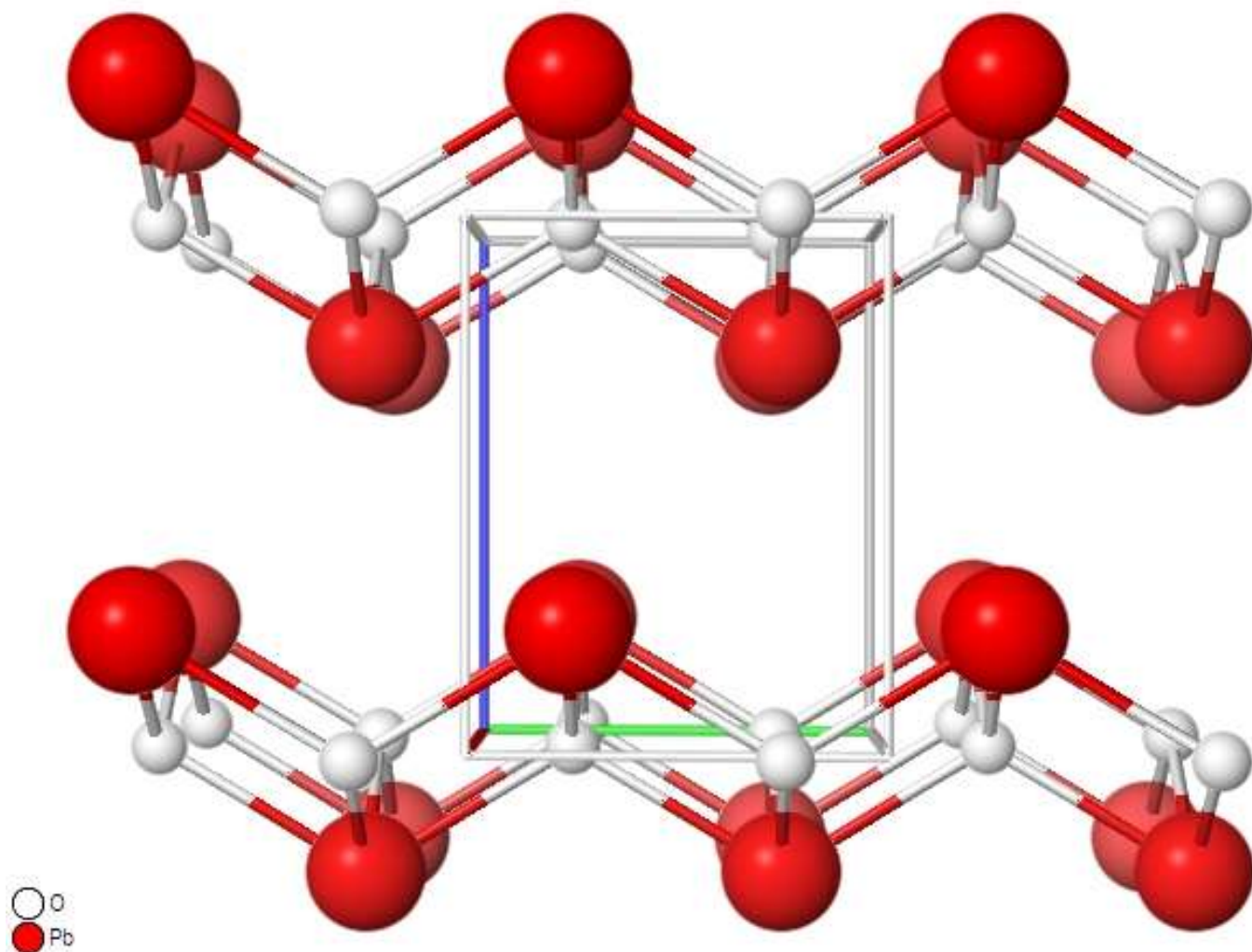
NiAs (AB)



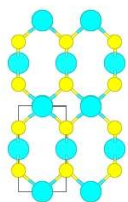
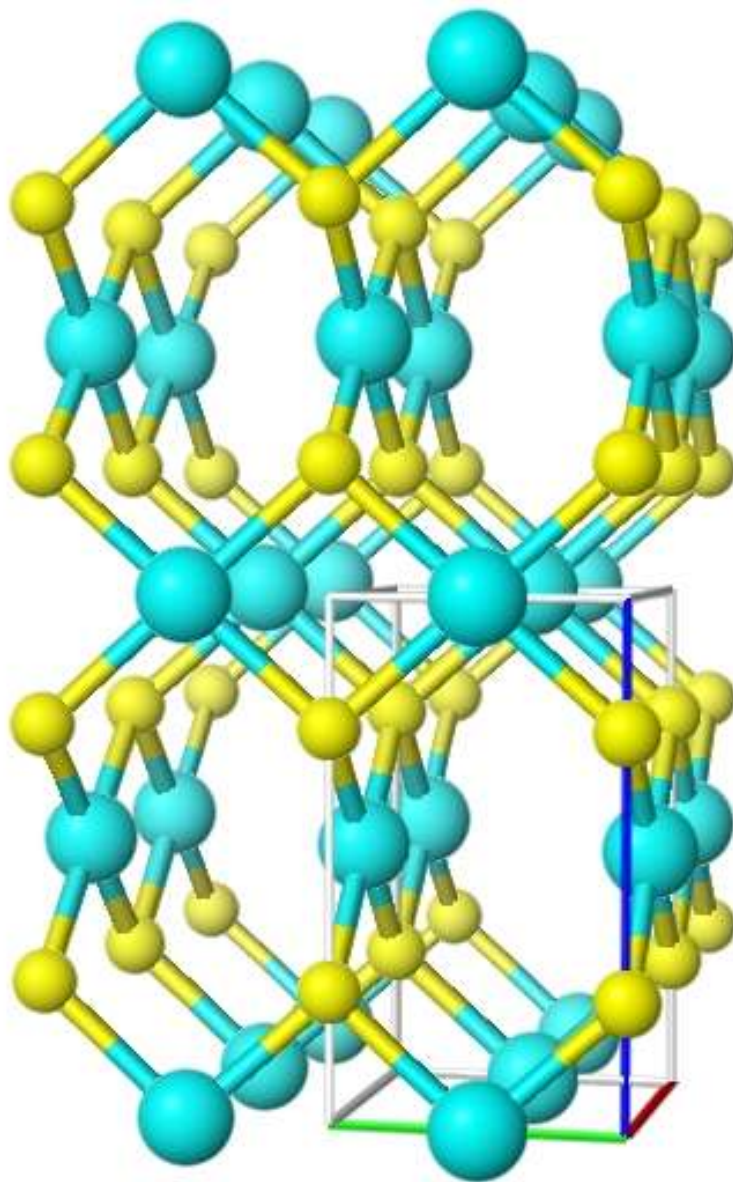
α -BN (AB)



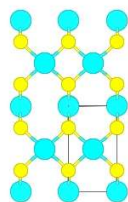
PbO (*AB*, *PbO-red*)



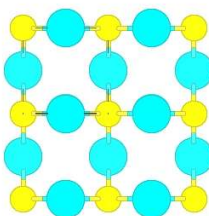
PtS (AB)



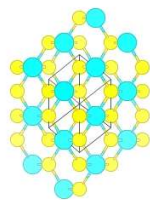
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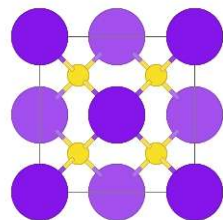
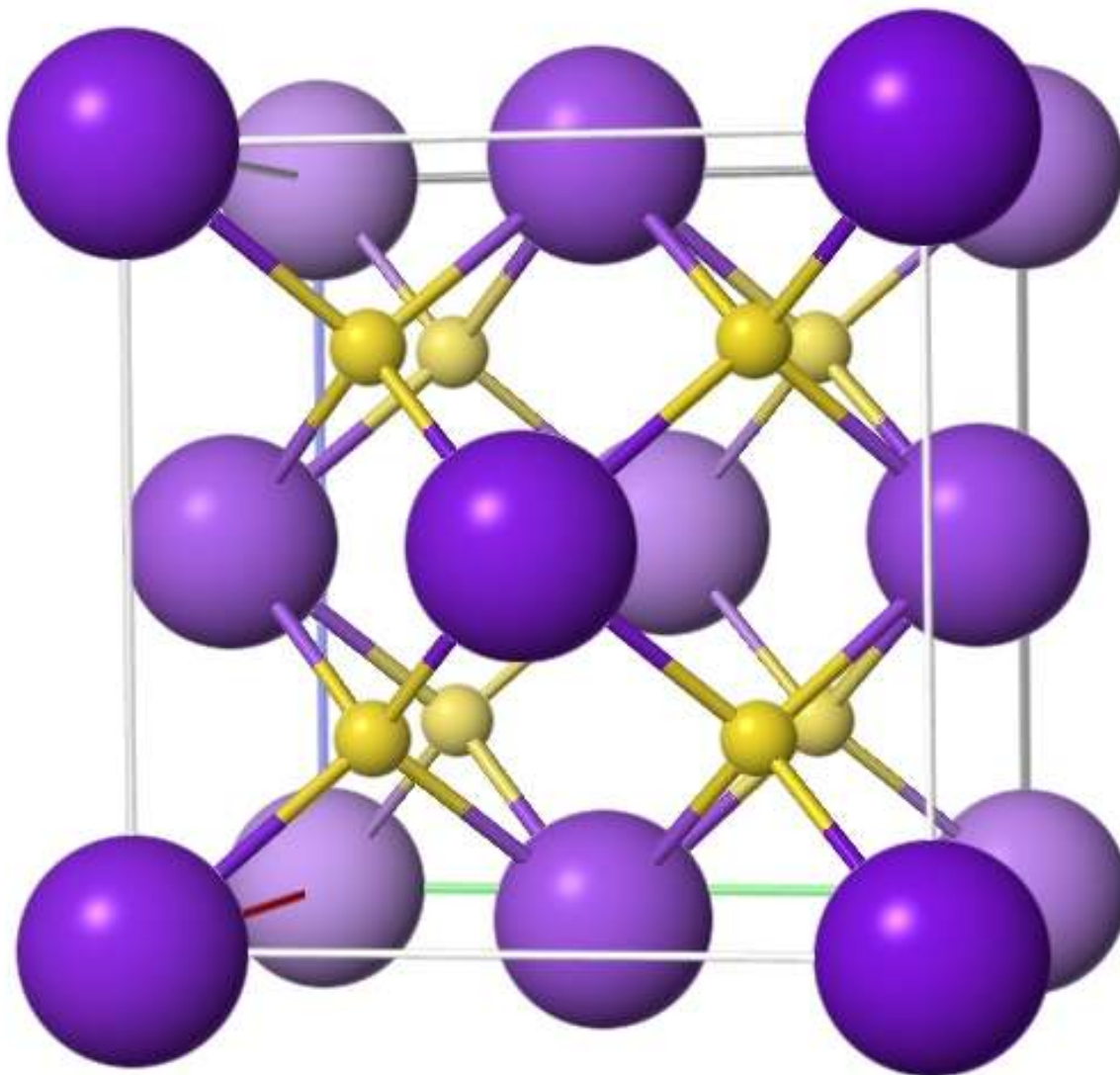


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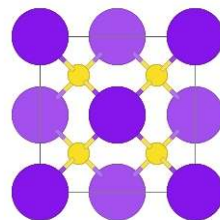


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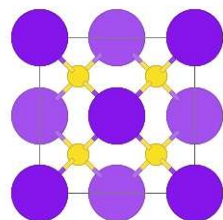
CaF_2 (AB_2 , Fluorite)



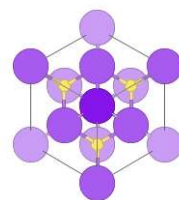
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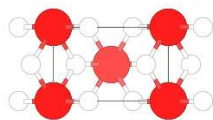
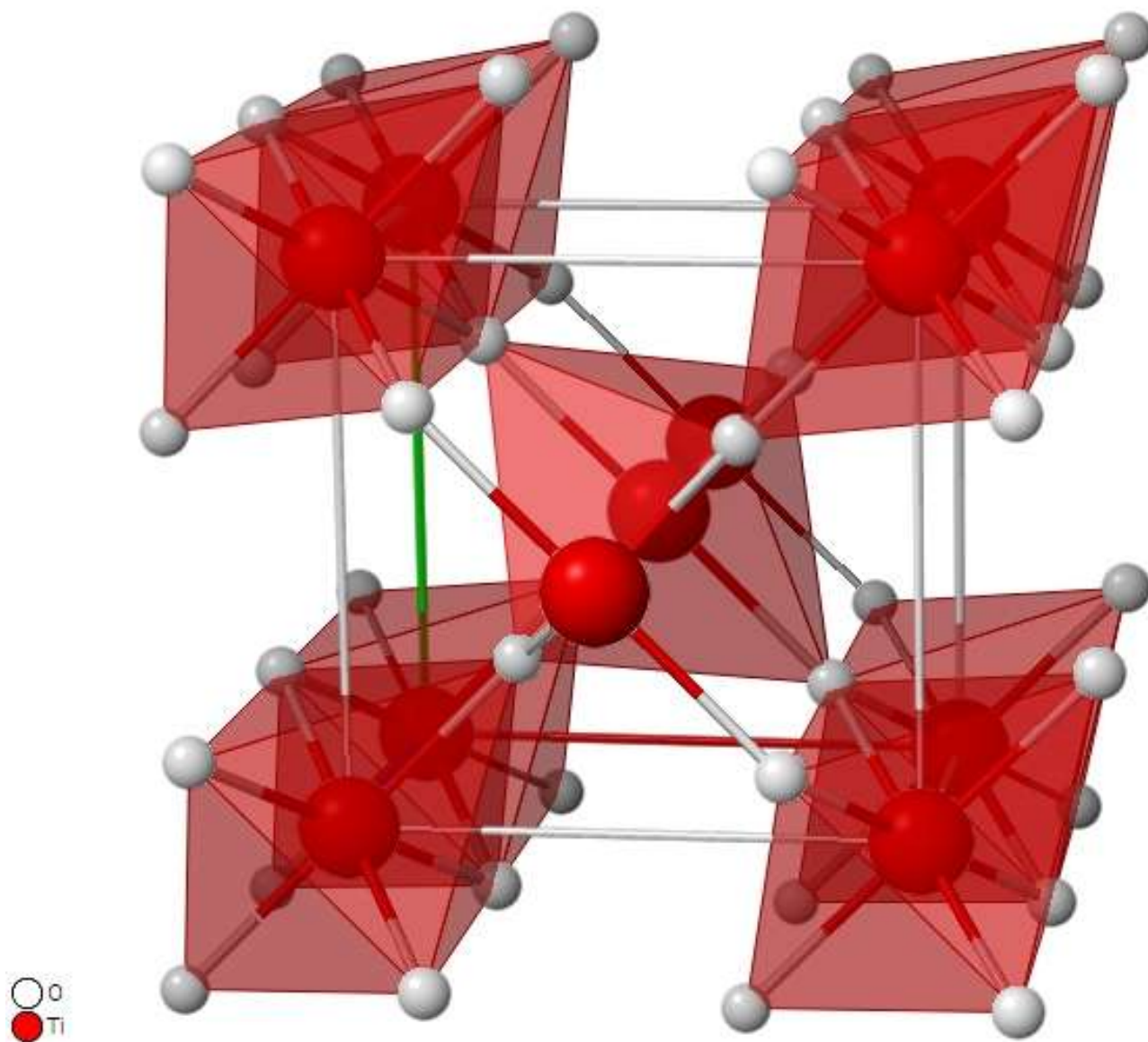


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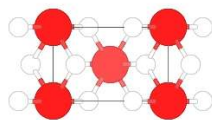


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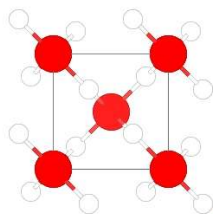
TiO_2 (AB_2 , Rutile)



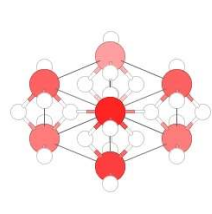
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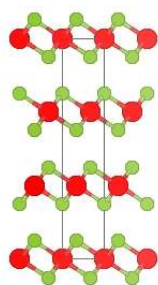
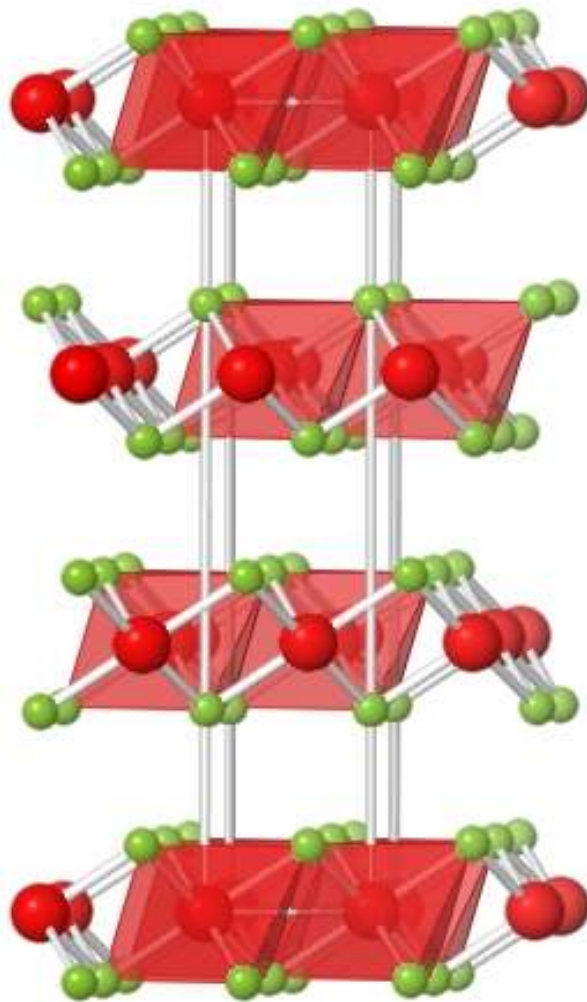


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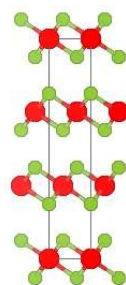


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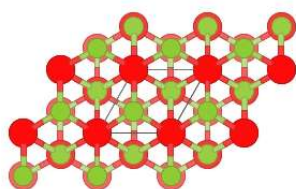
$CdCl_2$ (AB_2)



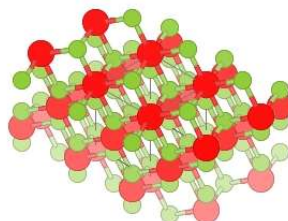
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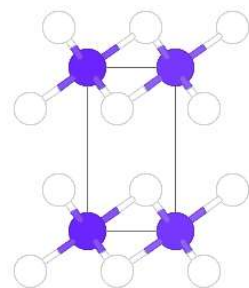
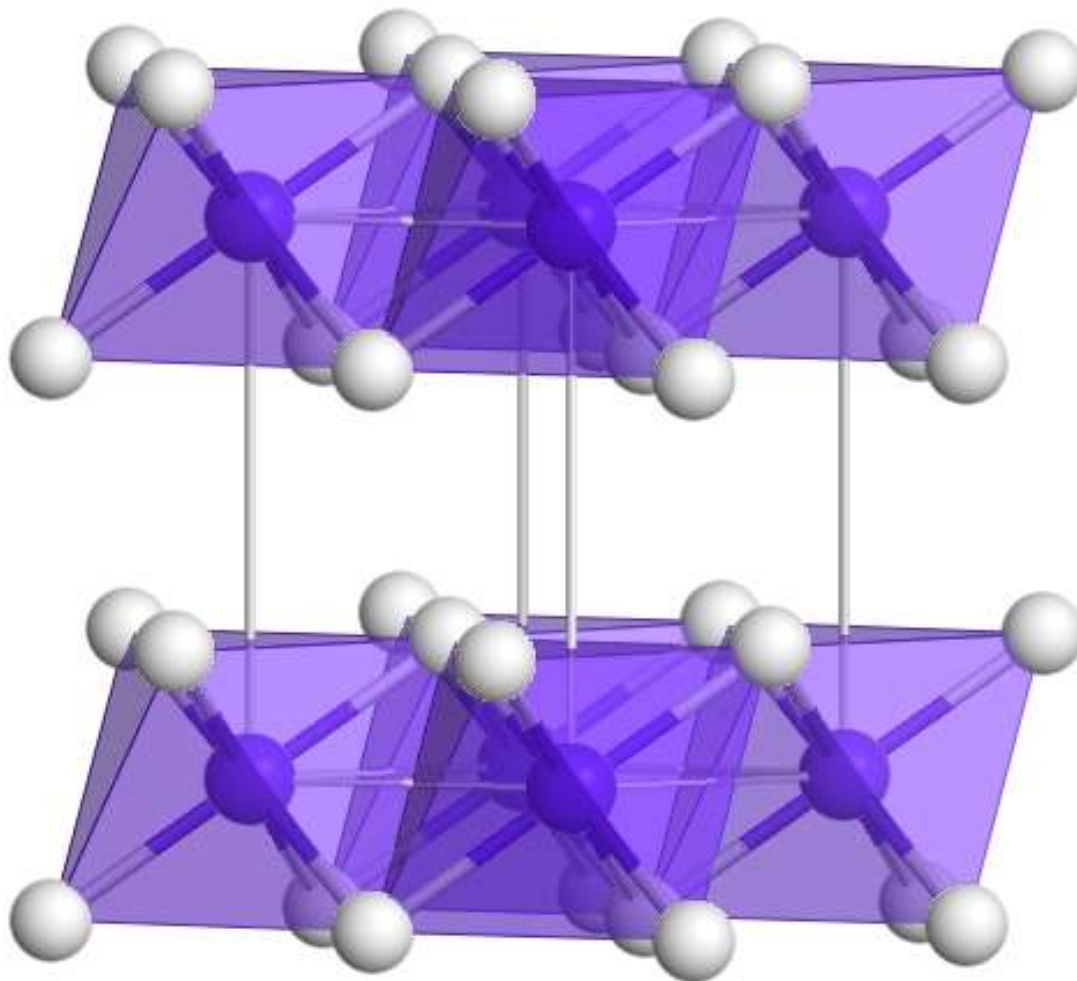


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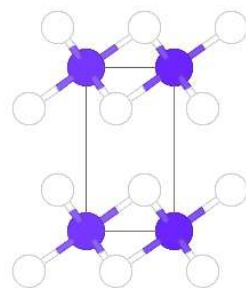


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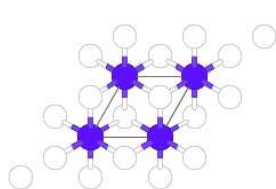
CdI_2 (AB_2)



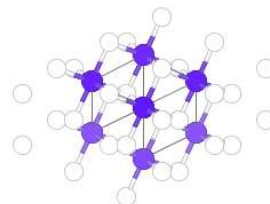
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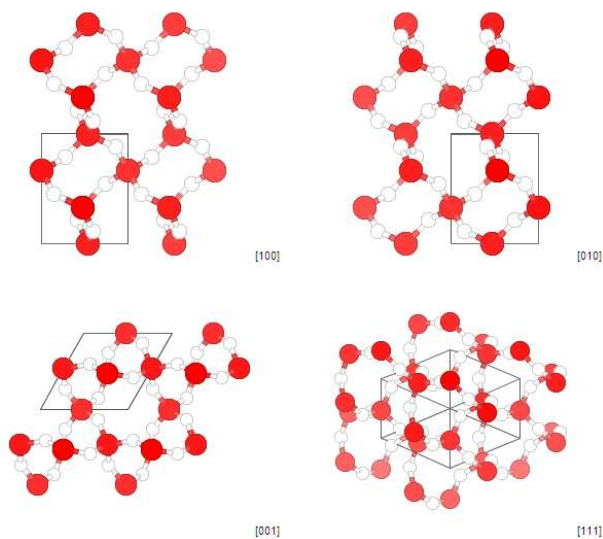
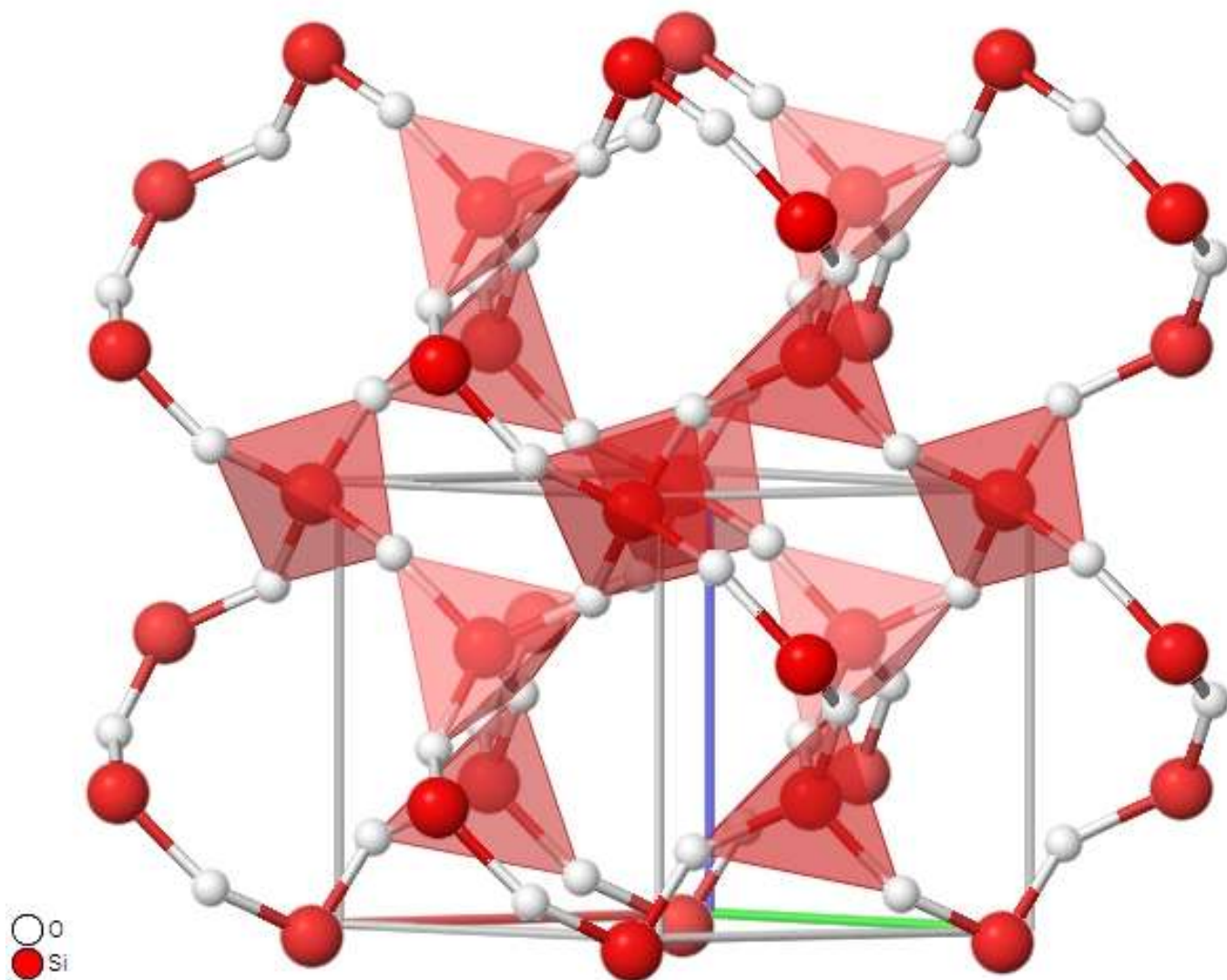


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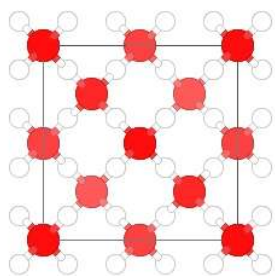
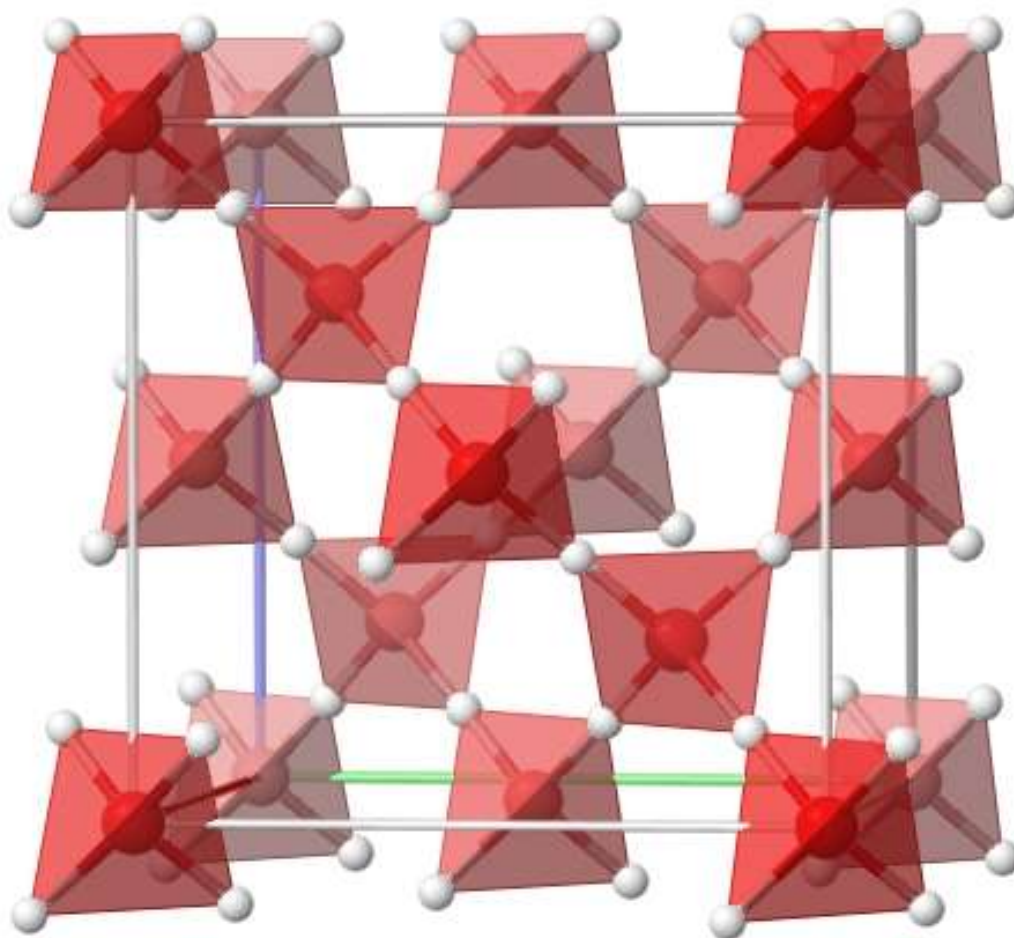


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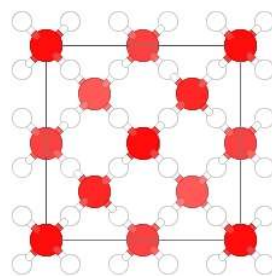
SiO_2 (AB_2 , Quartz)



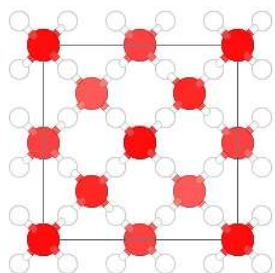
SiO_2 (AB_2 , Cristobalite)



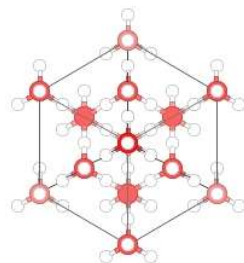
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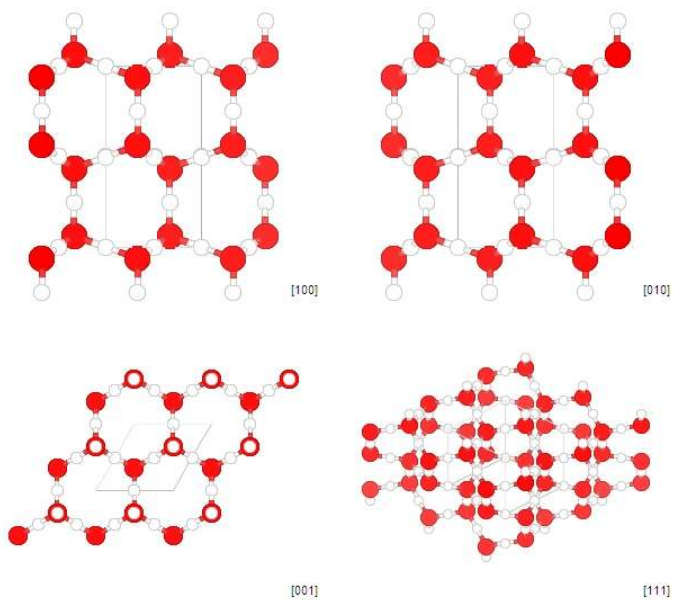
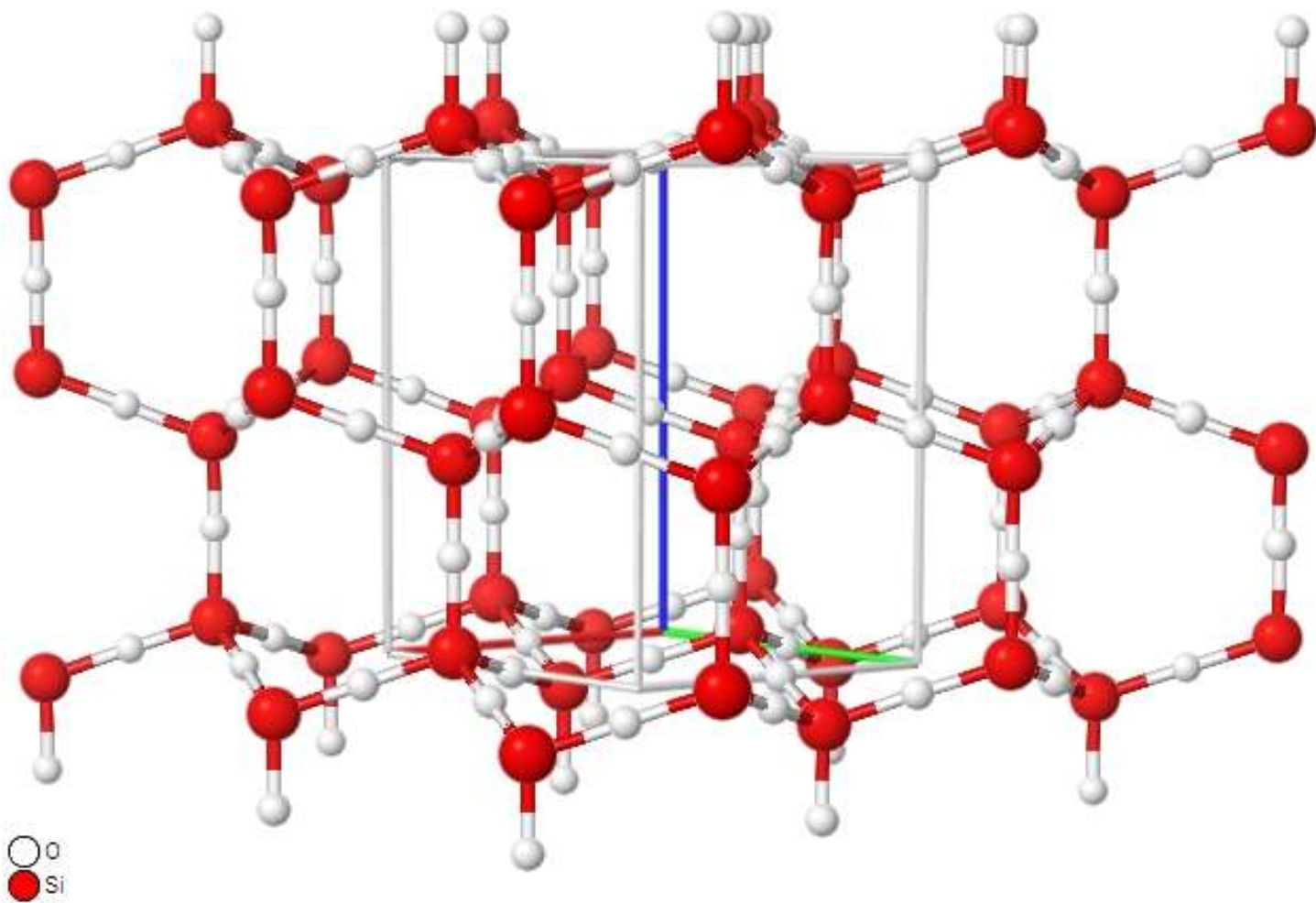


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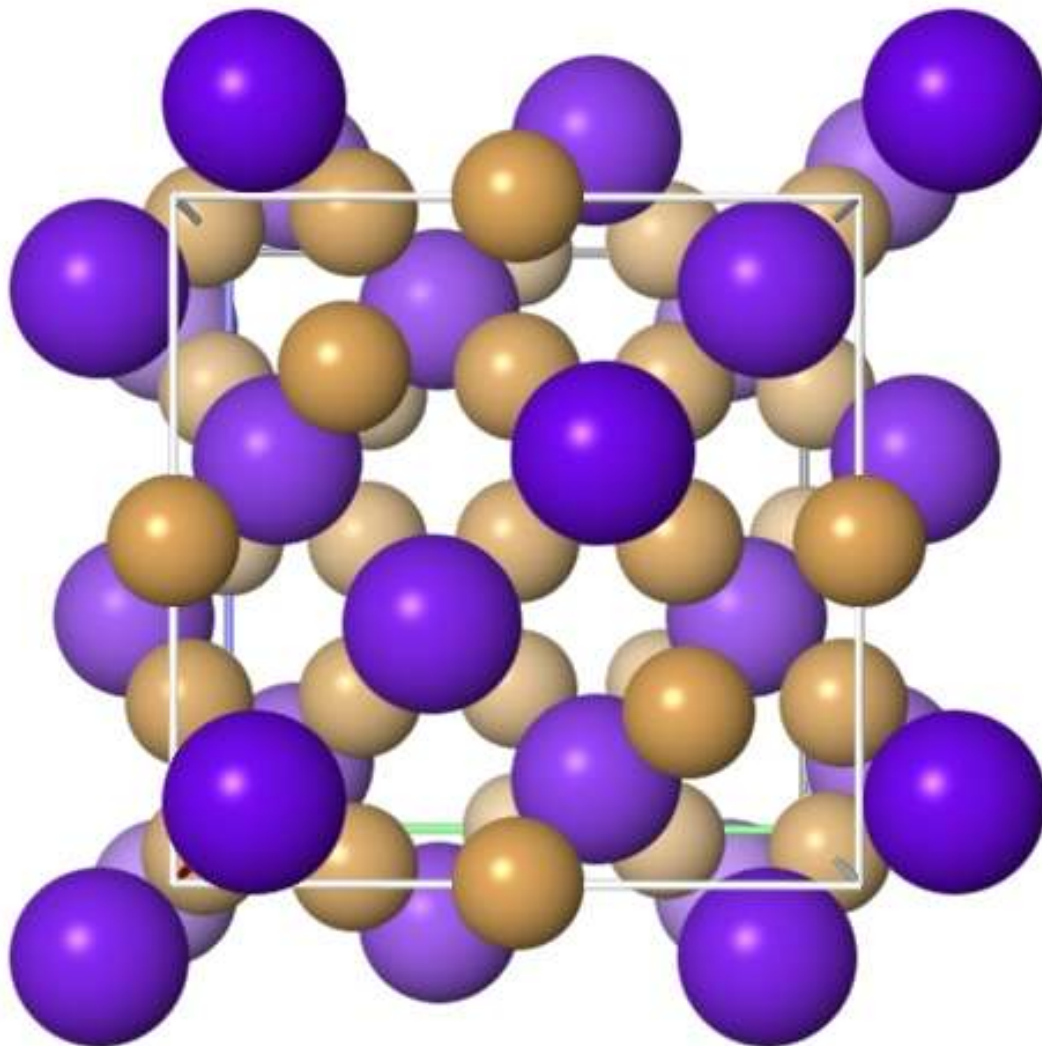


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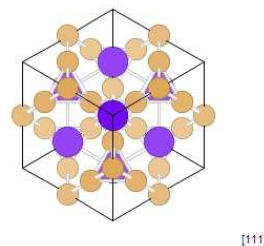
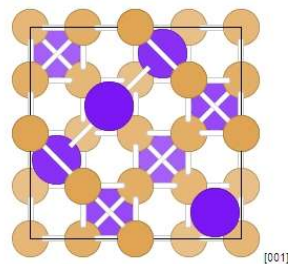
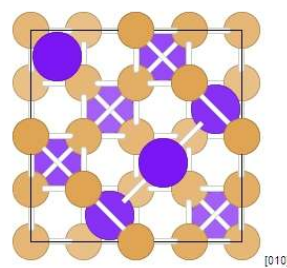
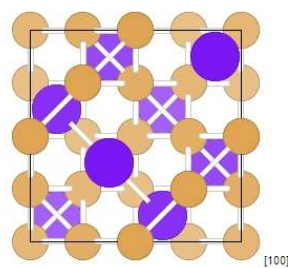
SiO_2 (AB_2 , Tridymite)



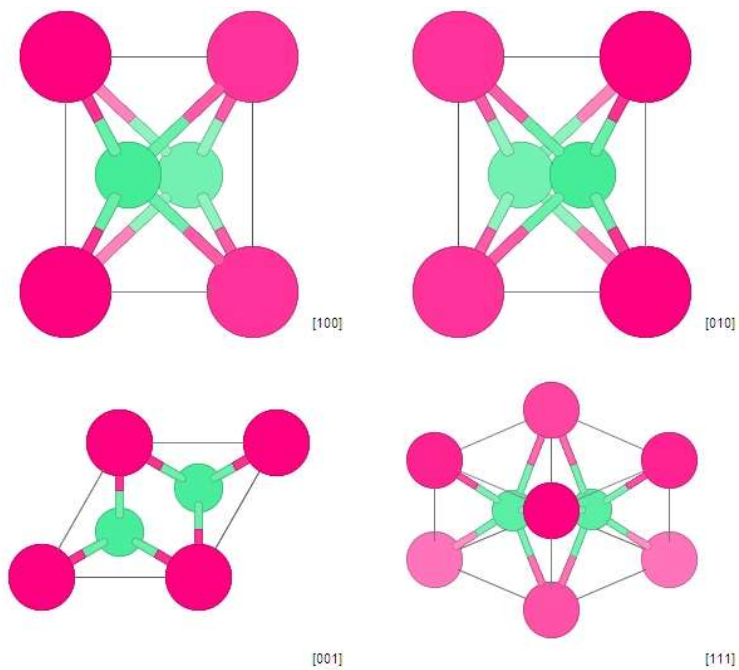
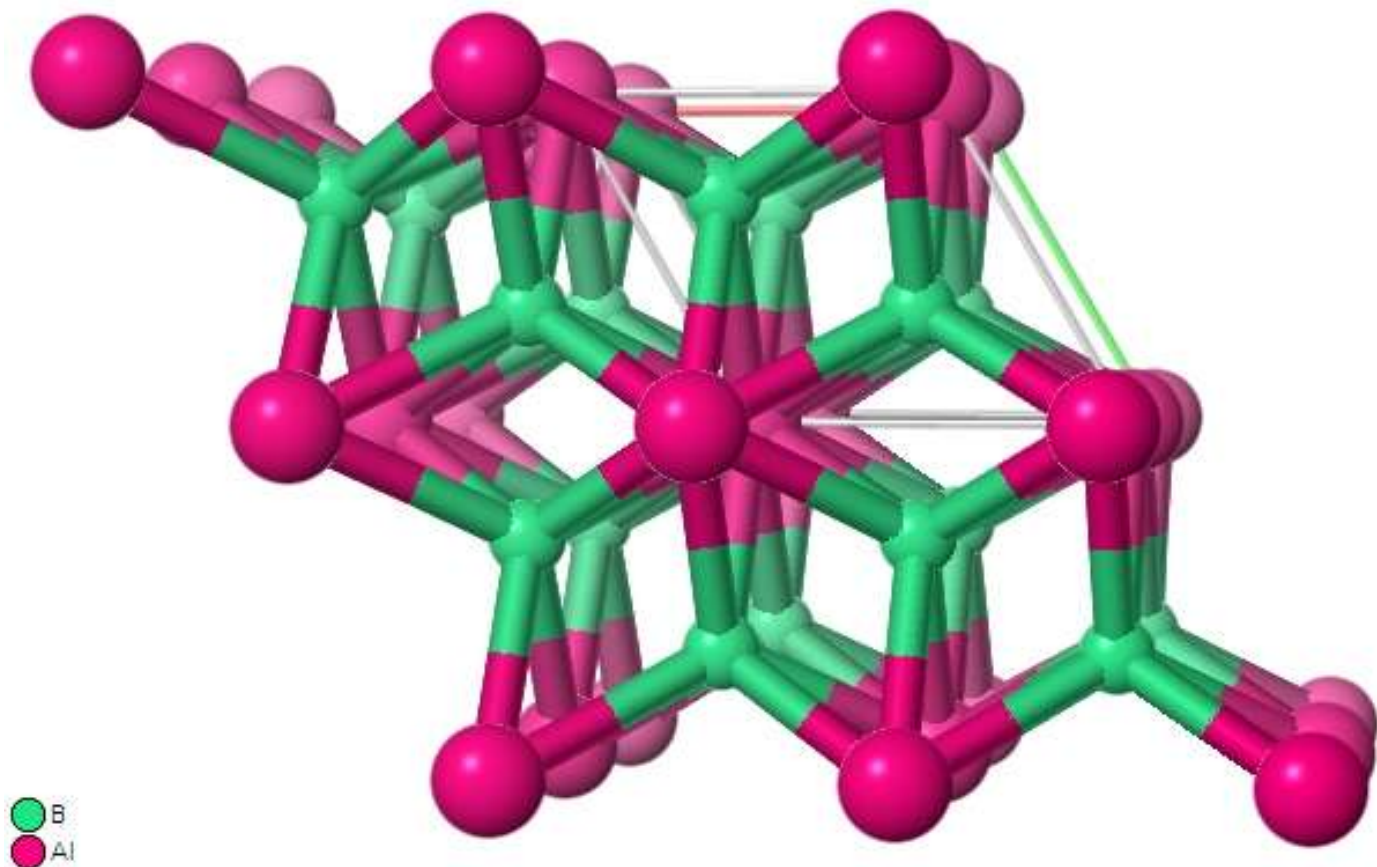
$MgCu_2$ (AB_2)



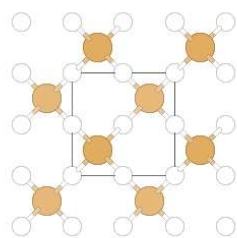
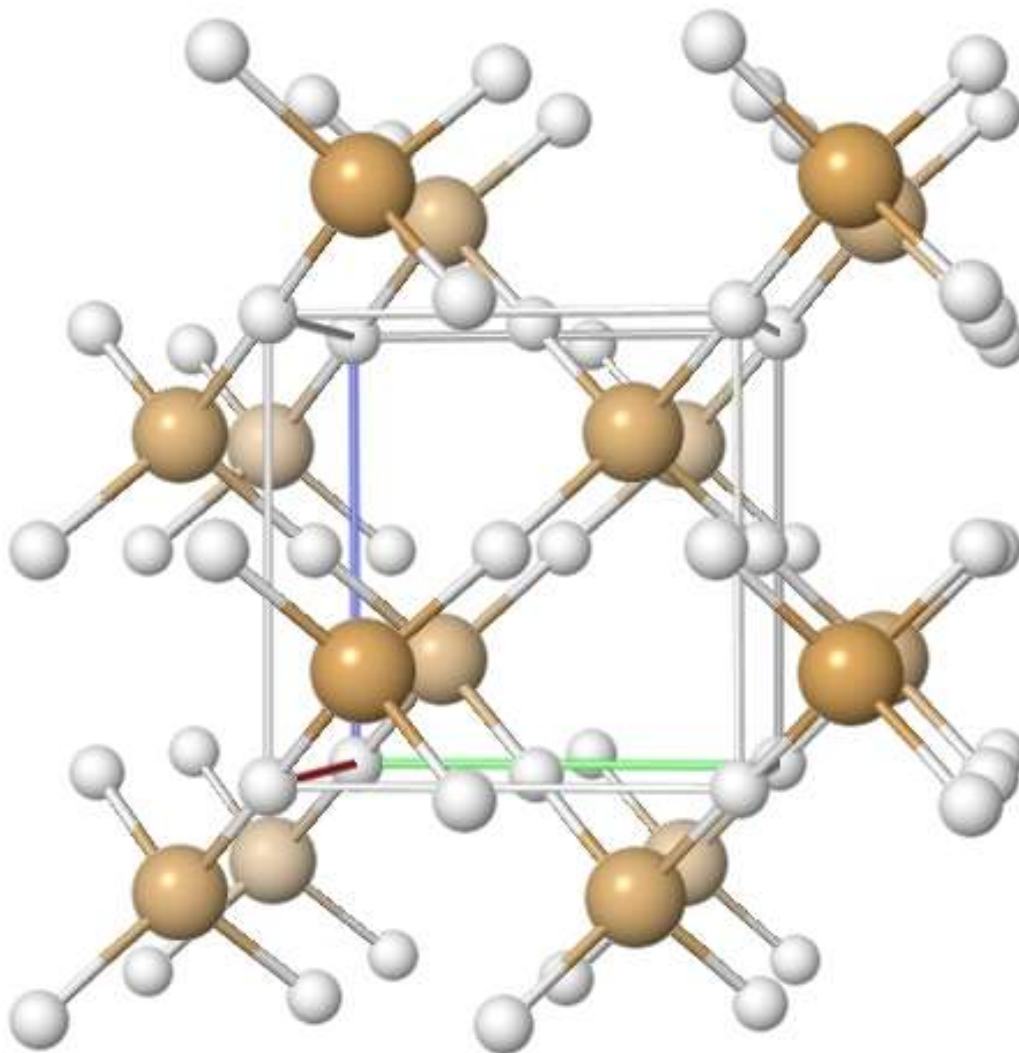
● Cu
● Mg



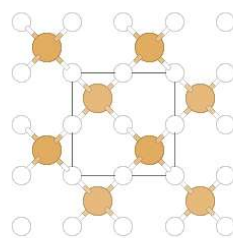
AlB_2 (AB_2)



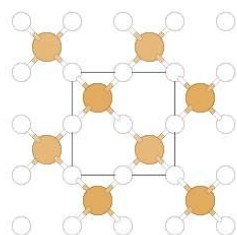
Cu_2O (AB_2)



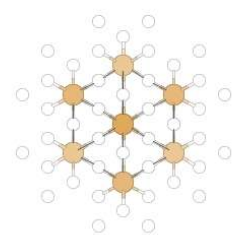
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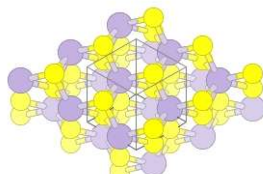
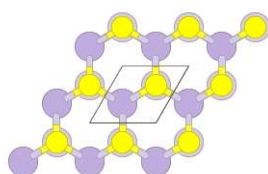
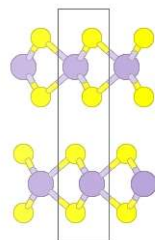
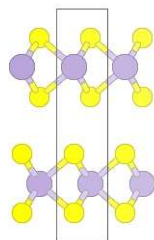
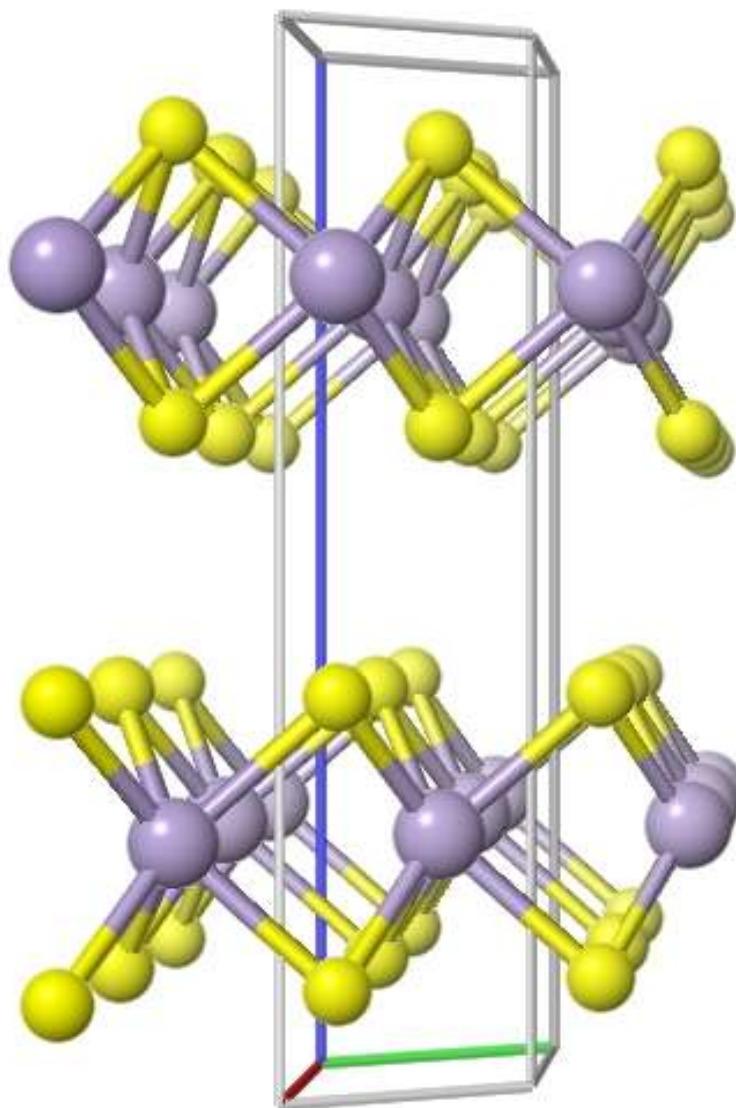


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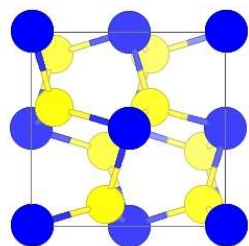
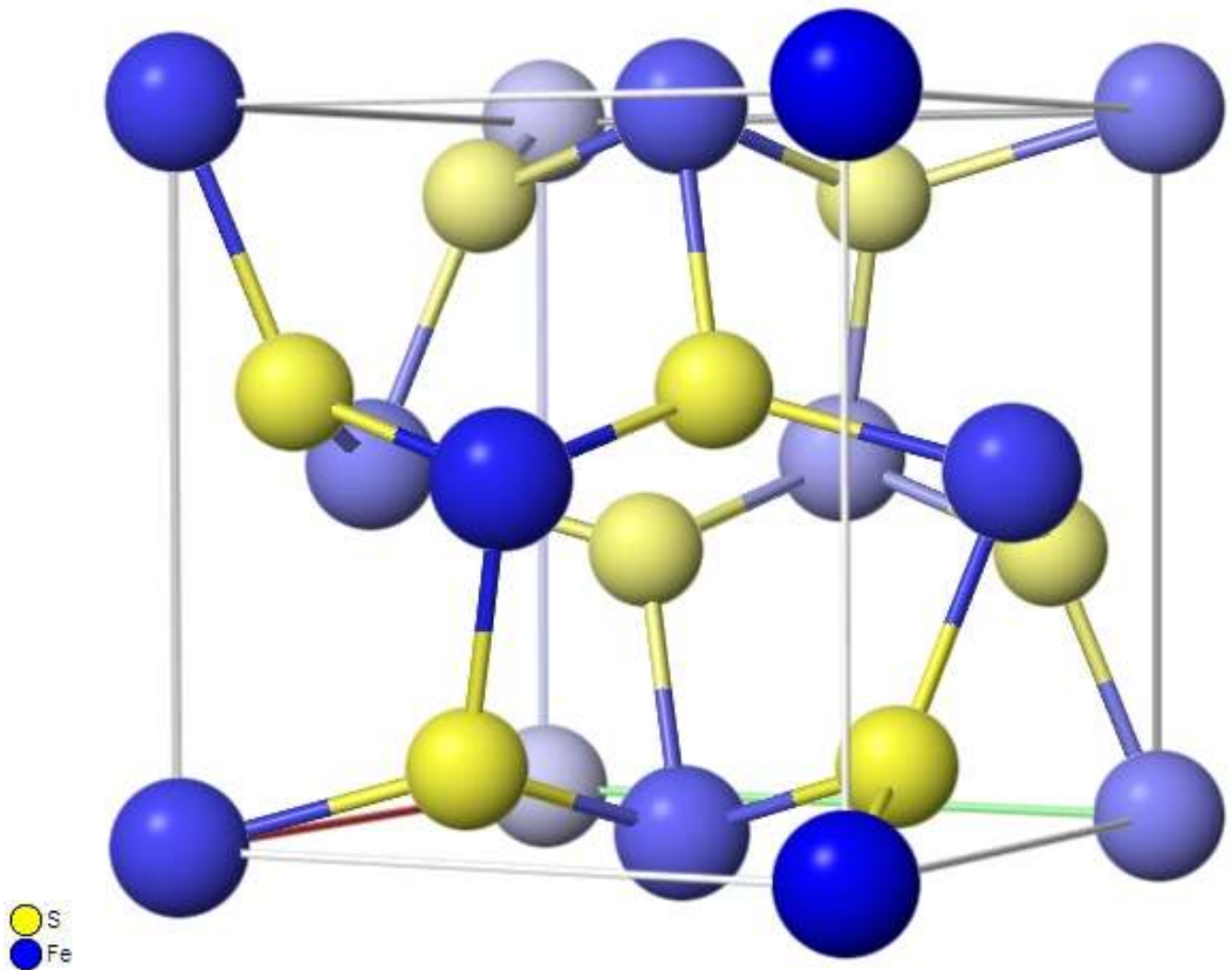


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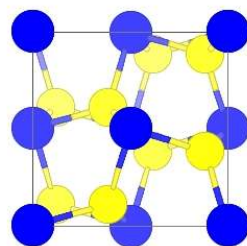
MoS_2 (AB_2)



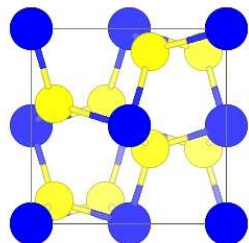
FeS_2 (AB_2 , Pyrite)



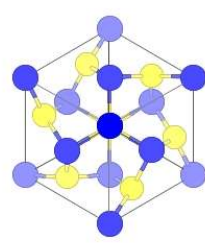
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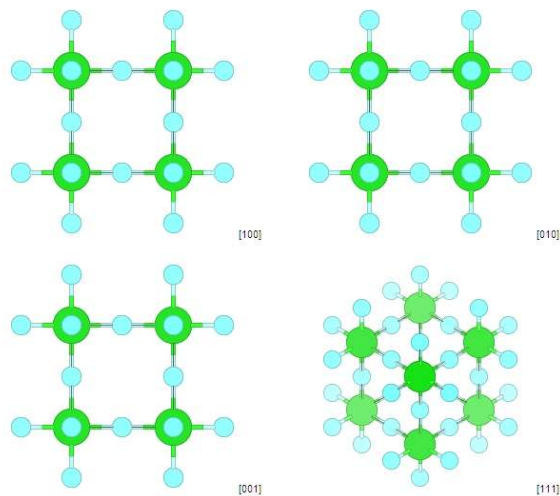
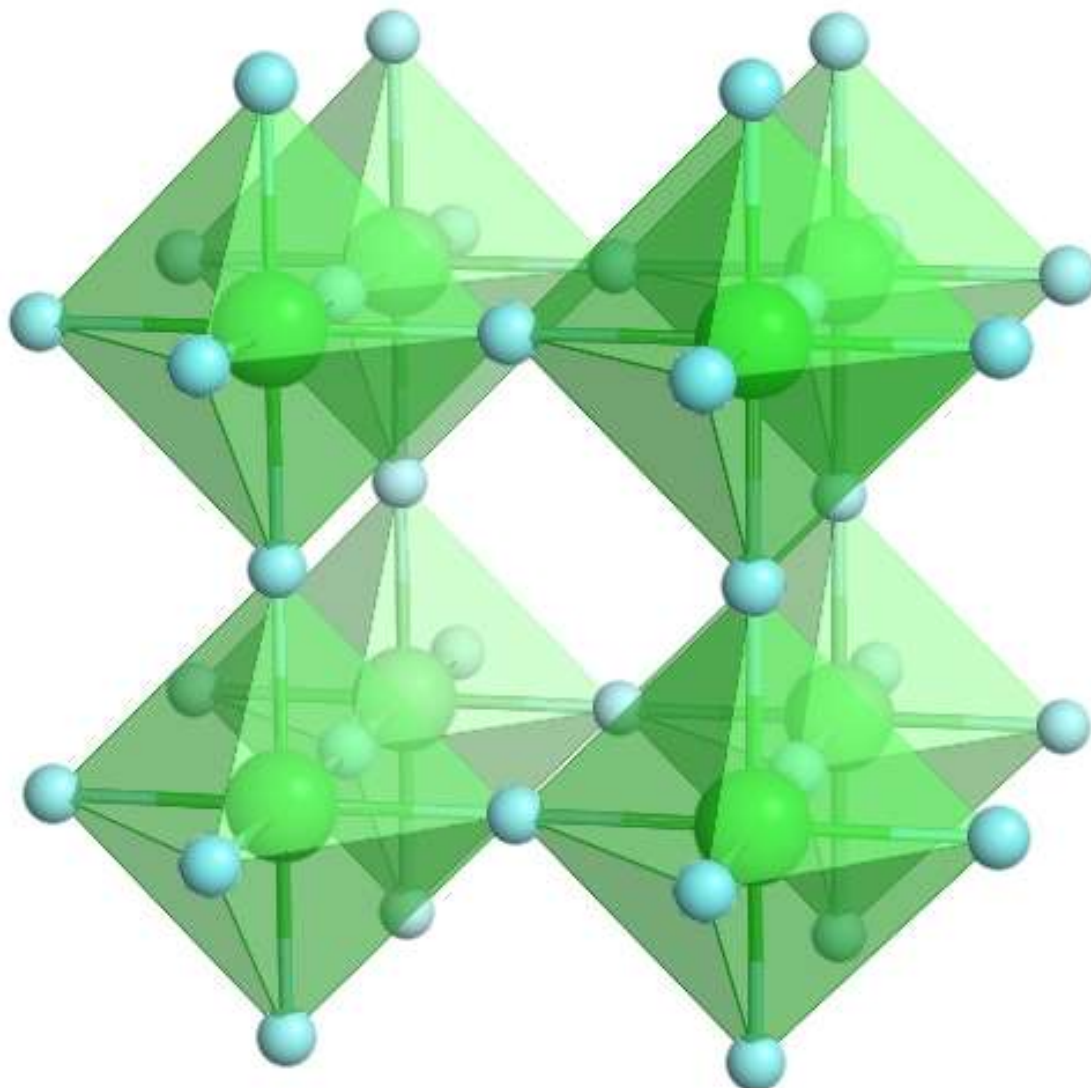


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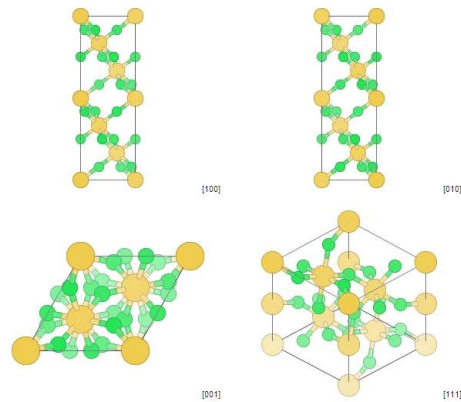
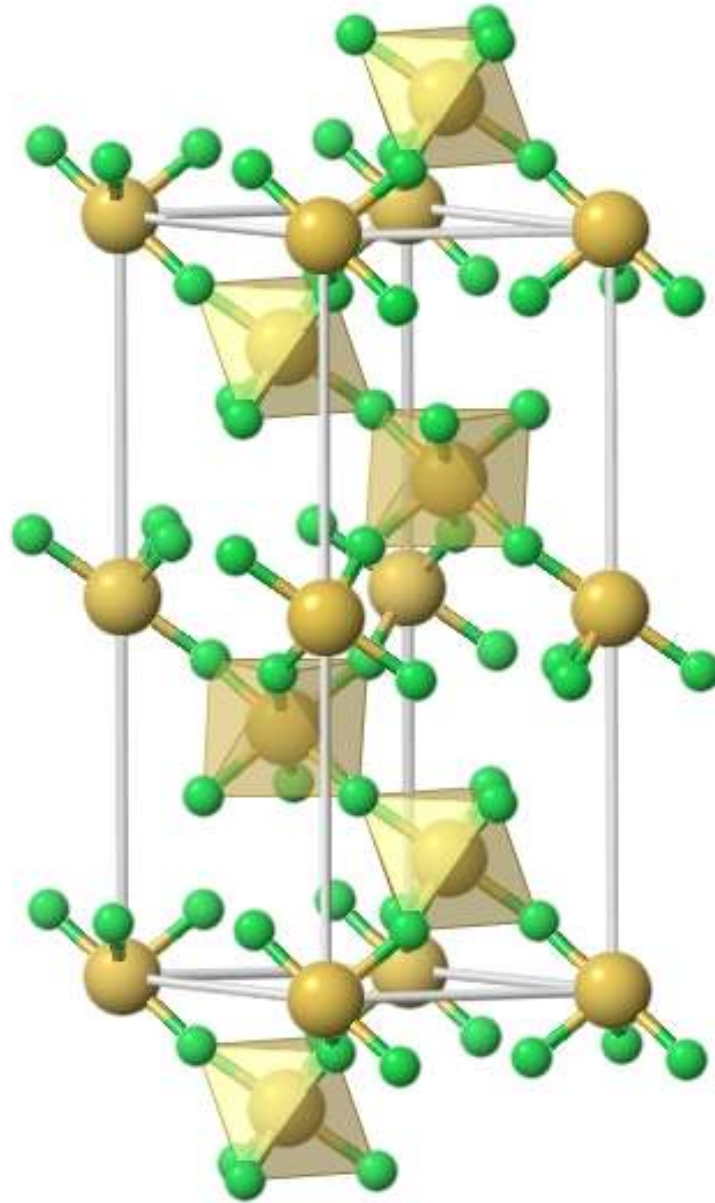


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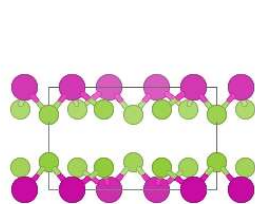
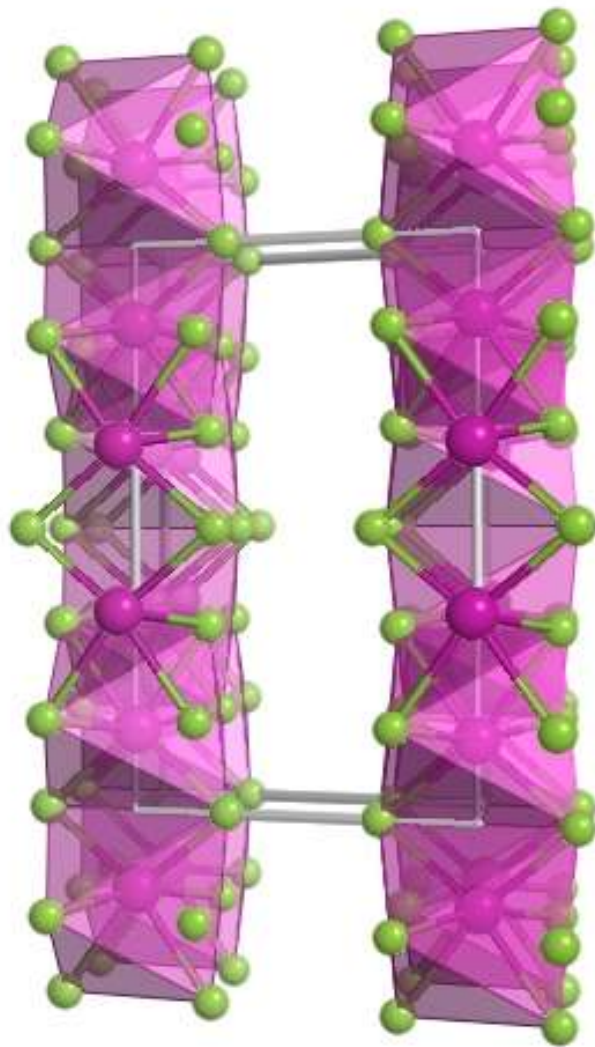
ReO_3 (AB_3)



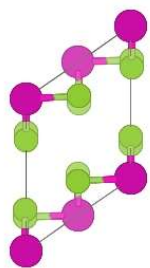
VF_3 (AB_3)



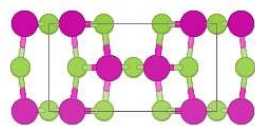
$MoCl_3$ (AB_3)



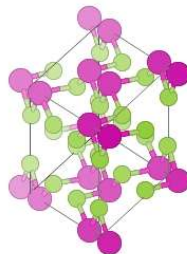
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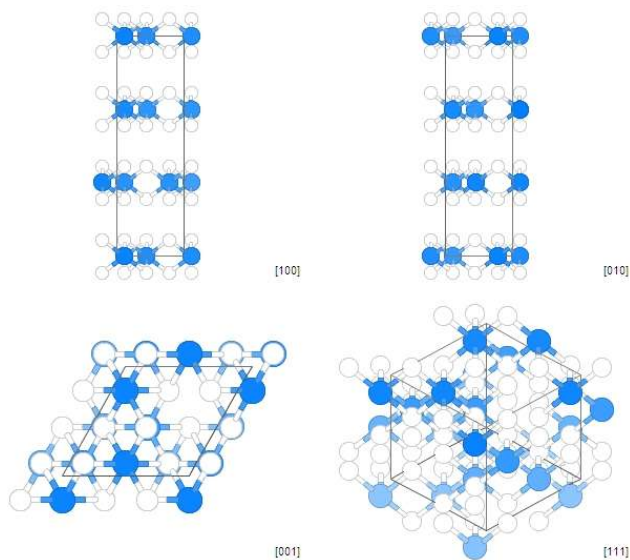
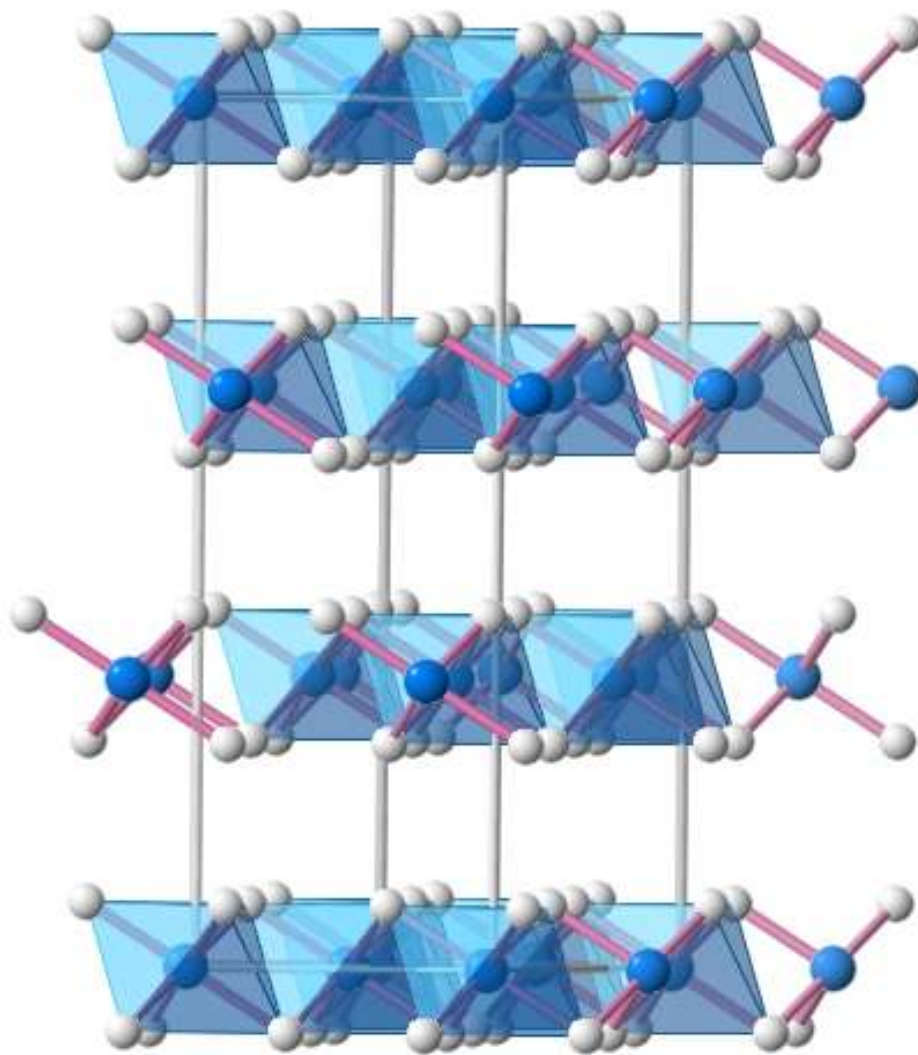


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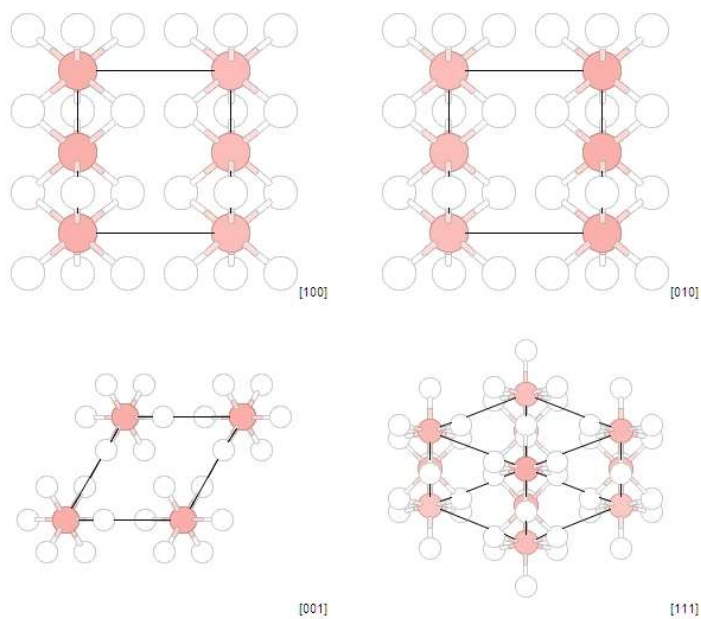
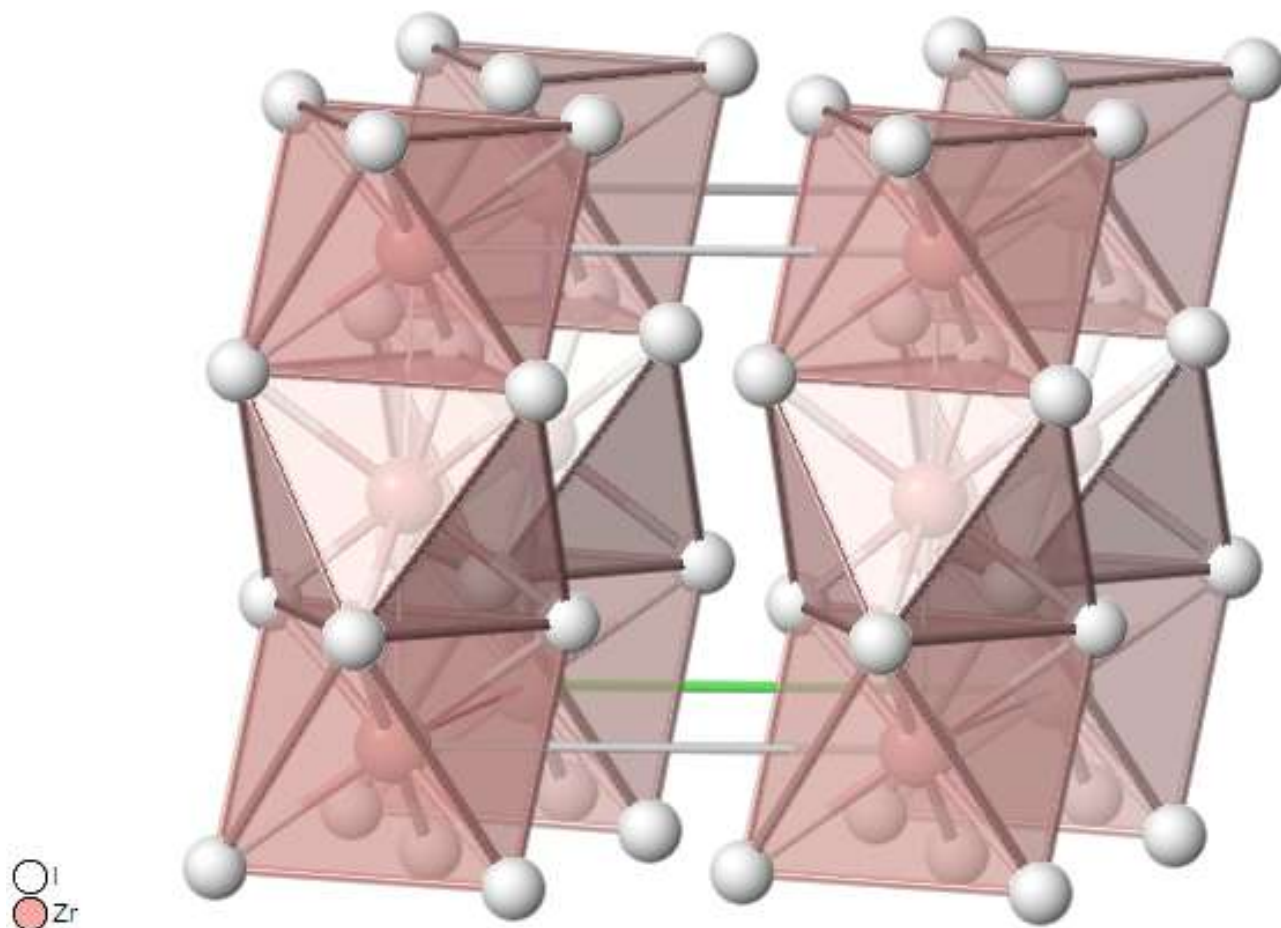


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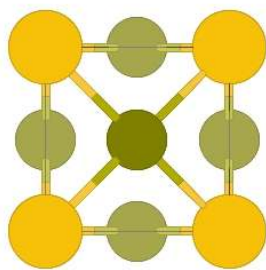
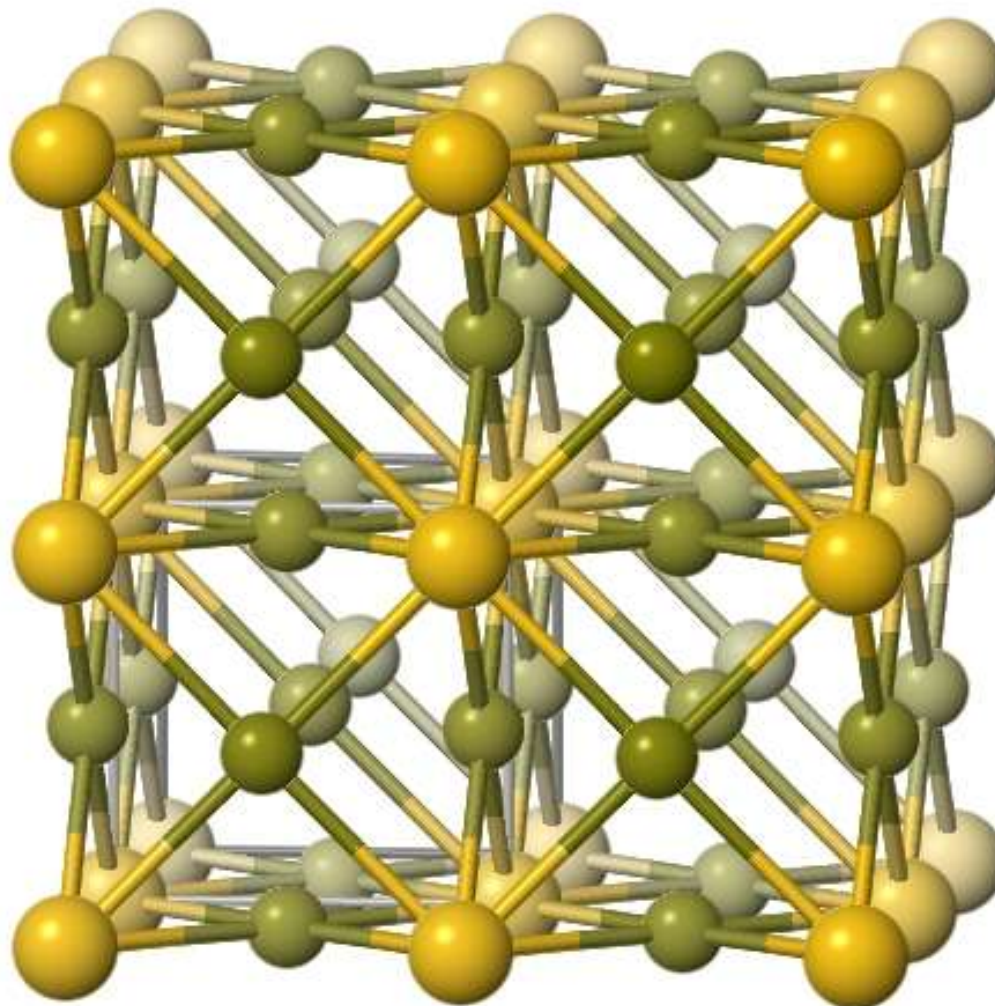
$CrCl_3$ (AB_3)



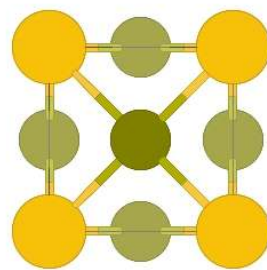
ZrI_3 (AB_3)



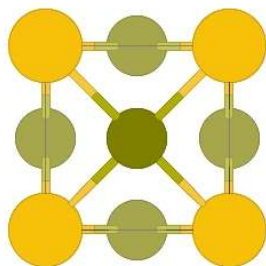
Cu_3Au (AB_3)



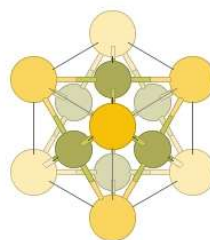
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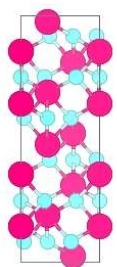
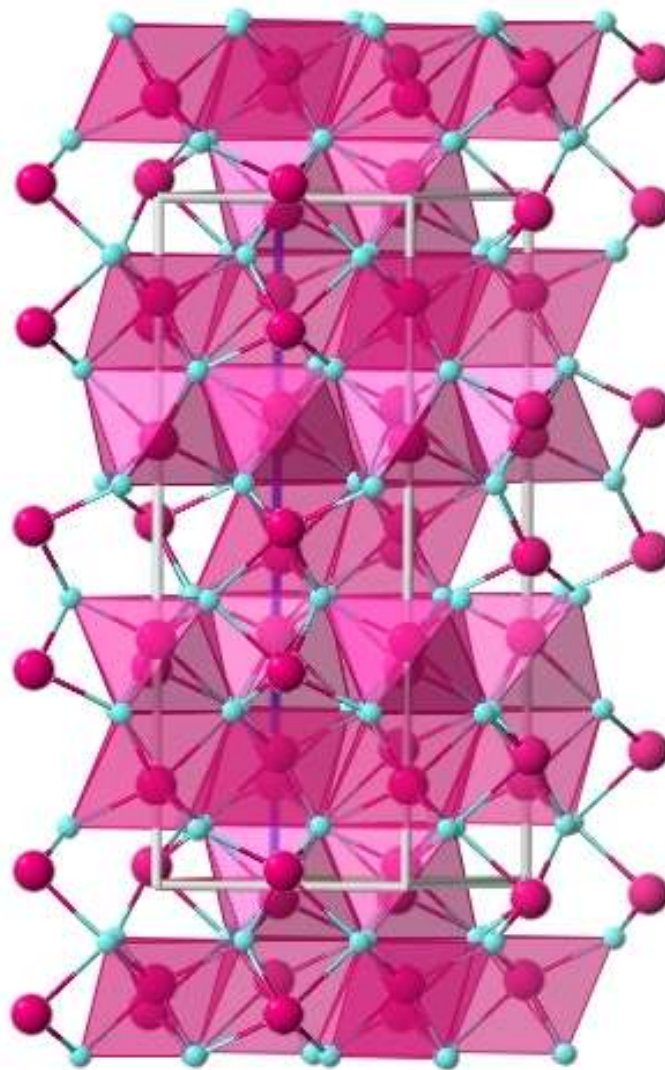


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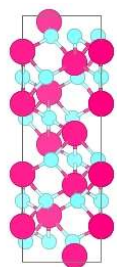


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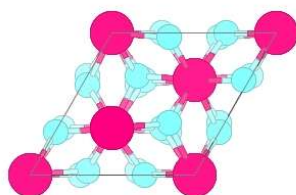
Al_2O_3 (A_2B_3 , Corundum)



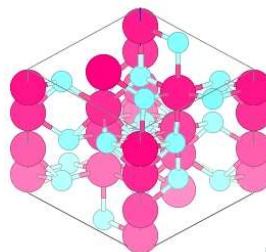
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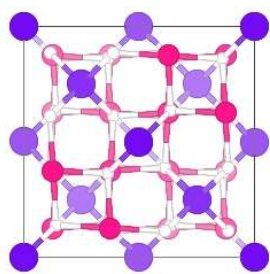
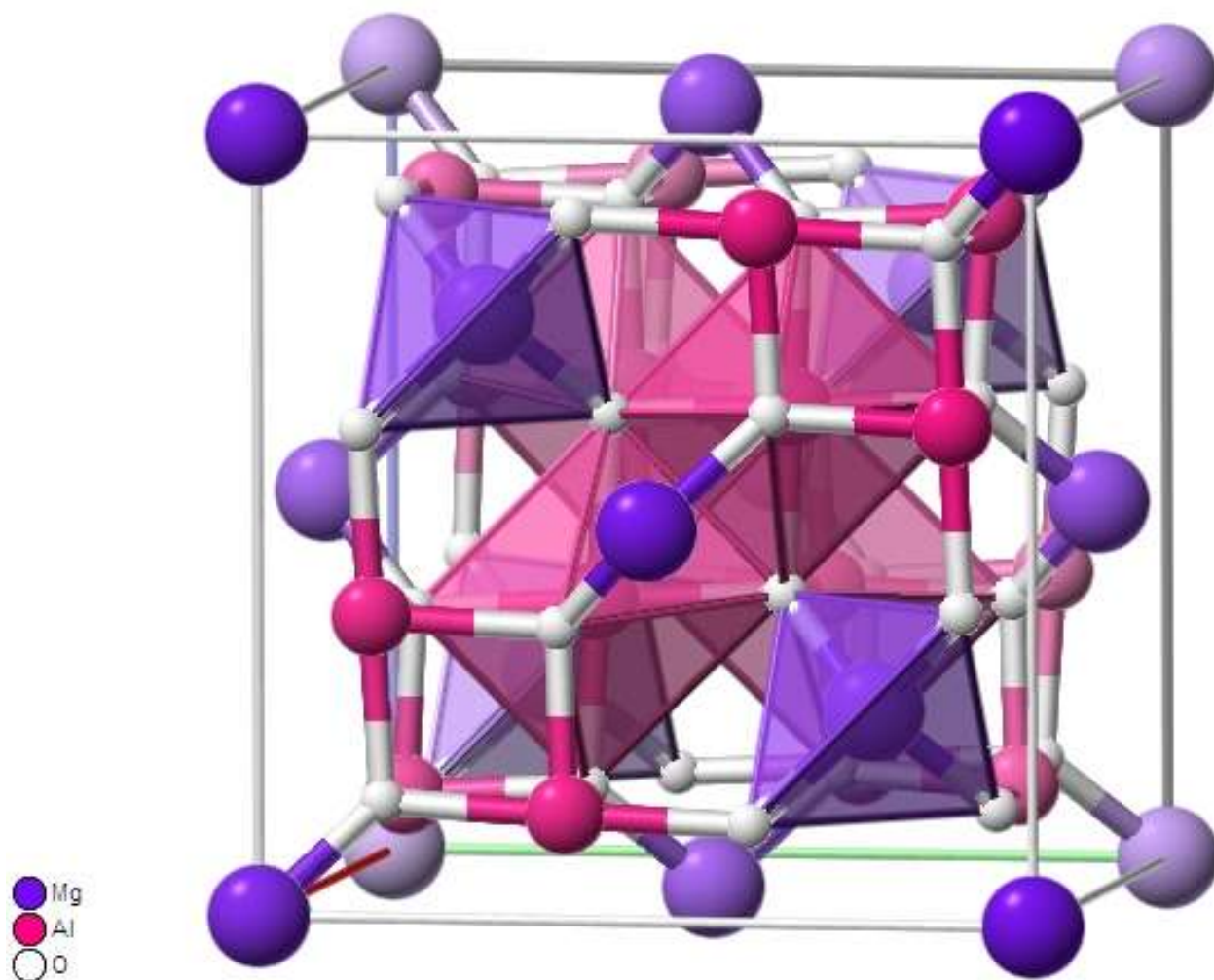


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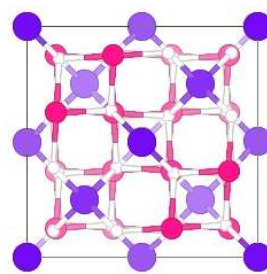


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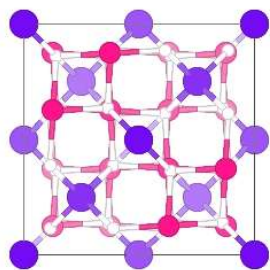
$MgAl_2O_3$ (A_3B_4 , Spinel)



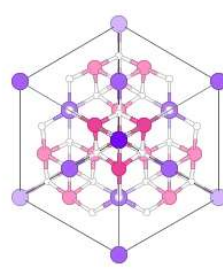
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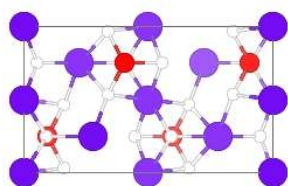
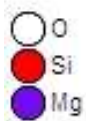
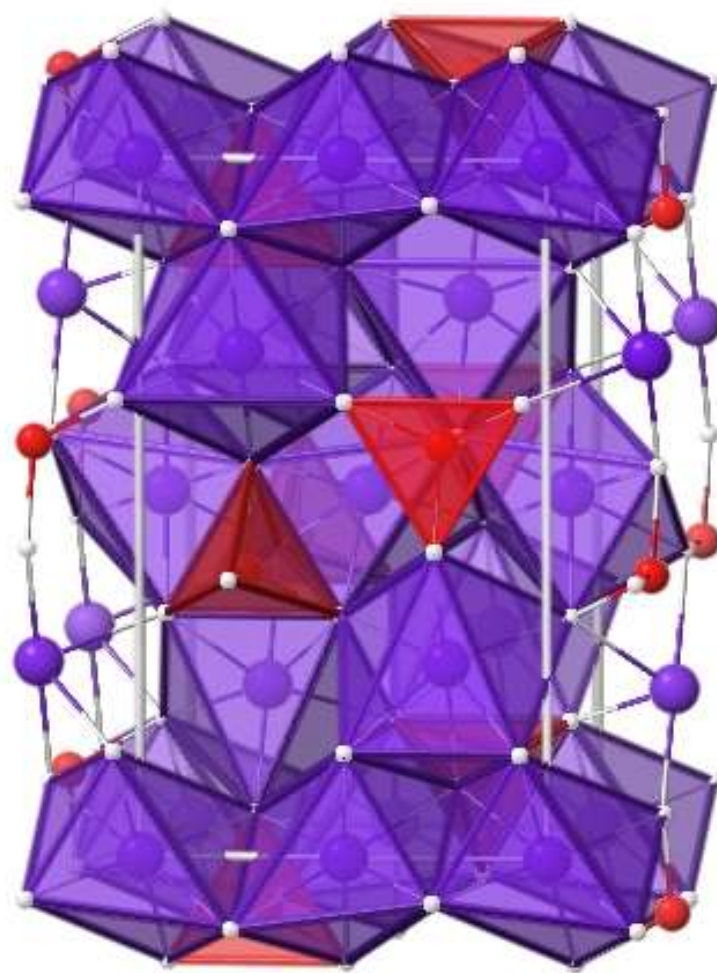


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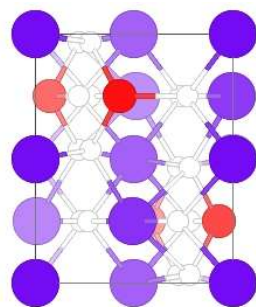


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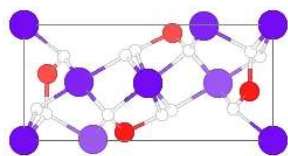
Olivine (Others, Mg_2SiO_4)



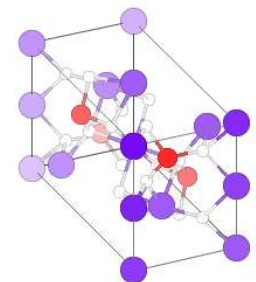
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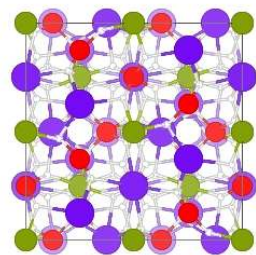
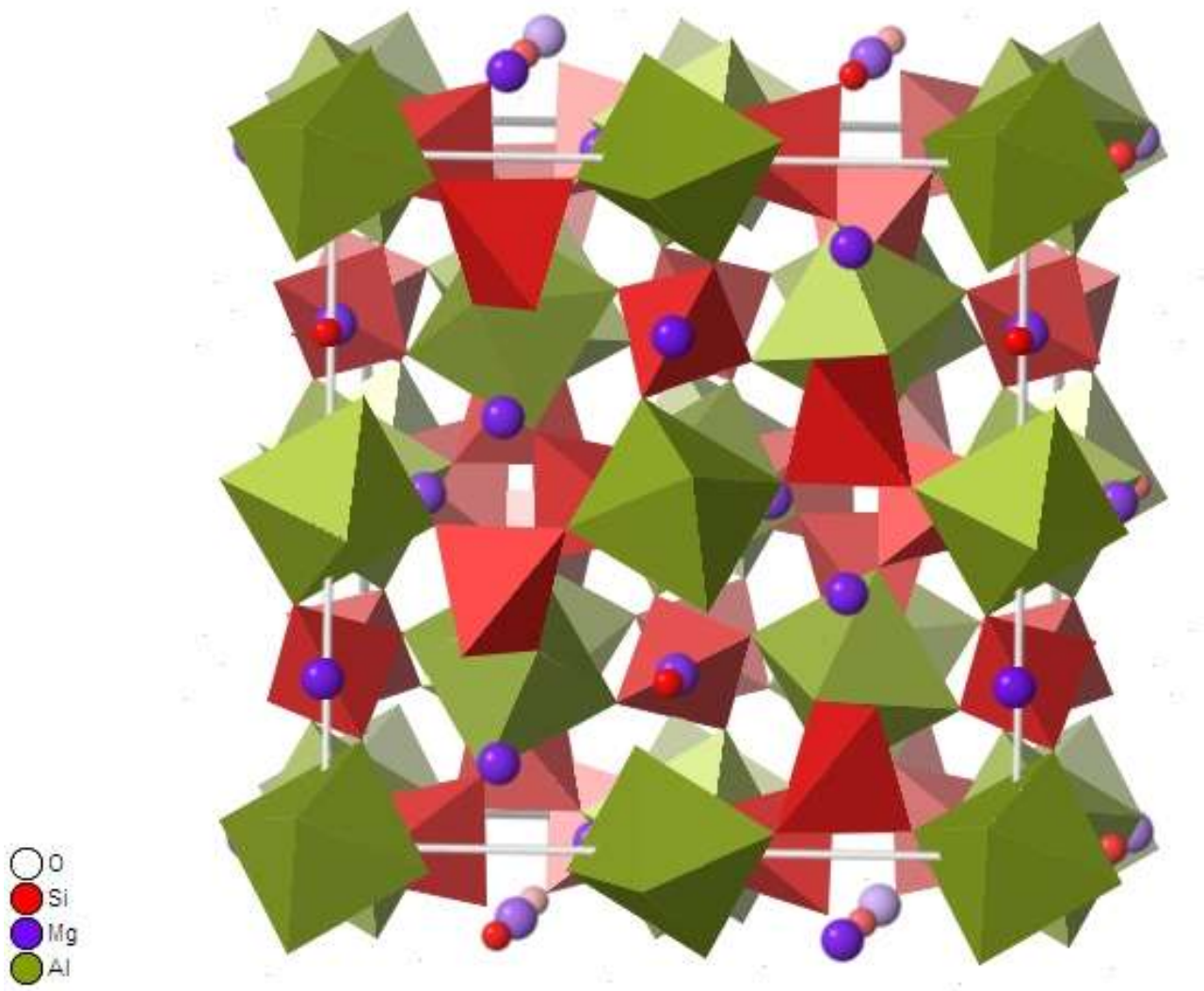


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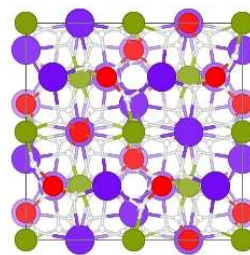


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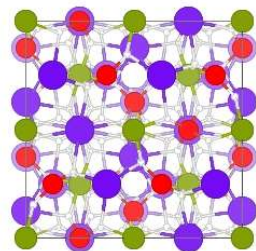
Granate (Others, Pyrope $Mg_3Al_2Si_3O_{12}$)



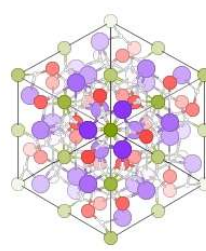
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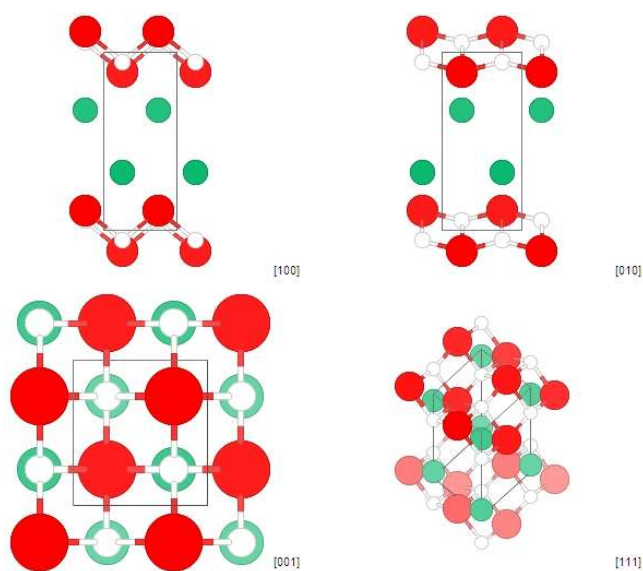
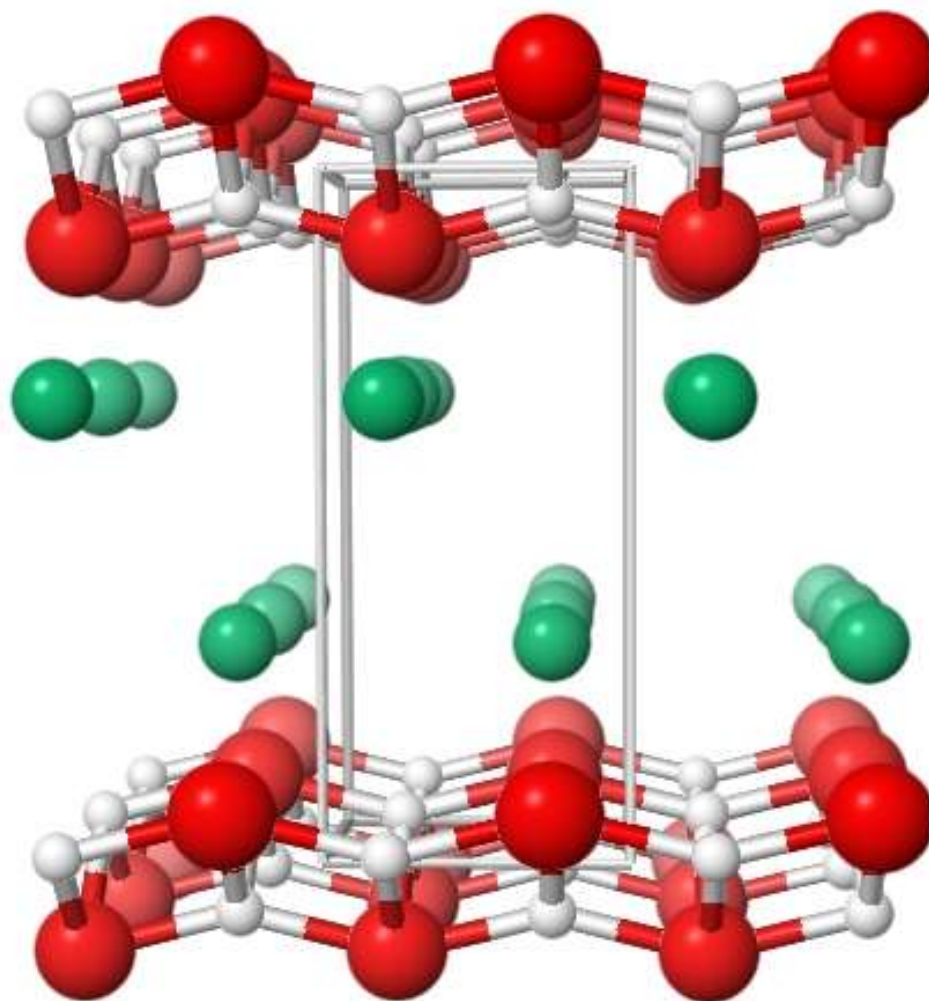


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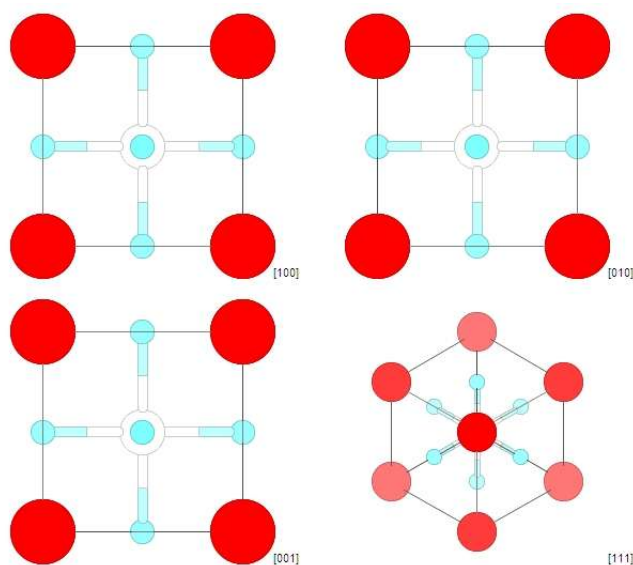
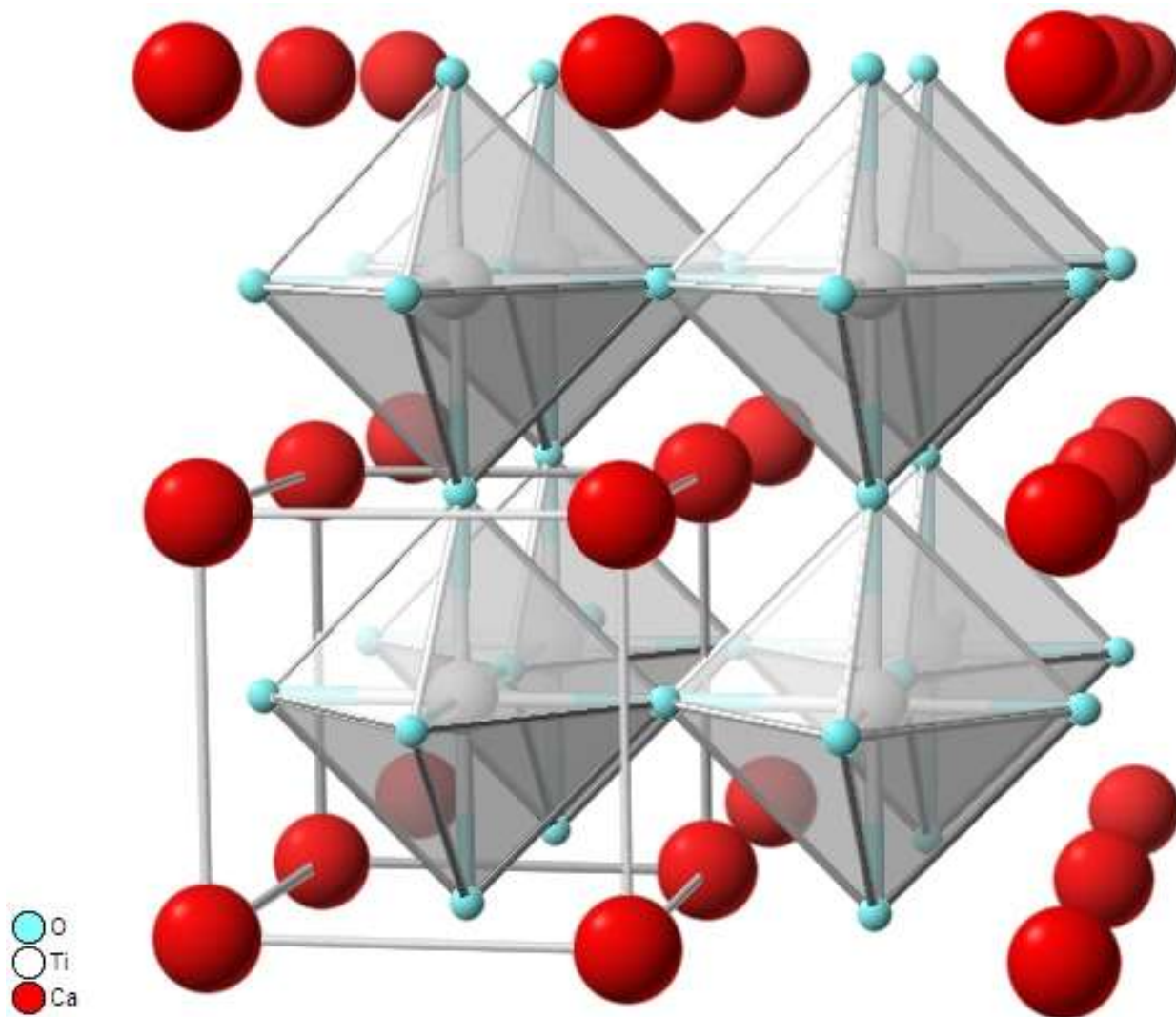


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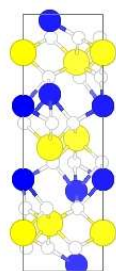
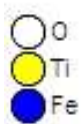
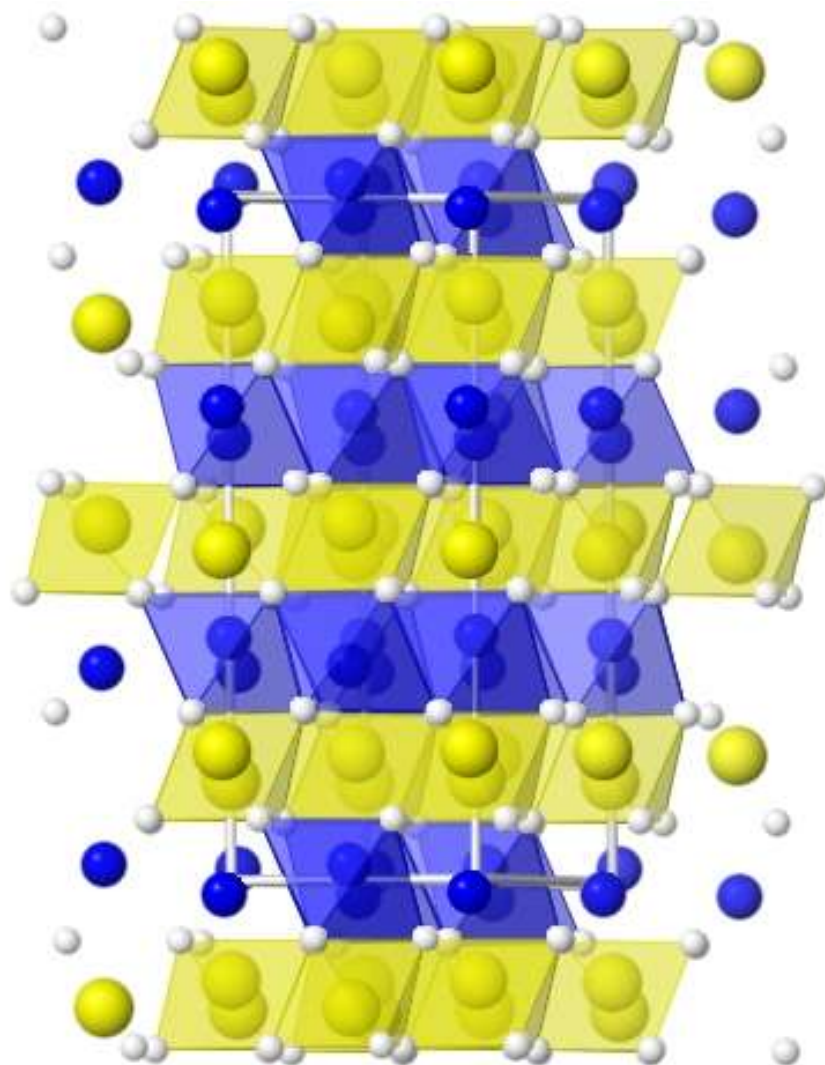
TiOBr (Others)



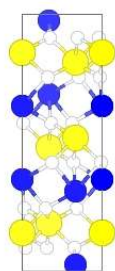
Perovskite (Others, CaTiO_3)



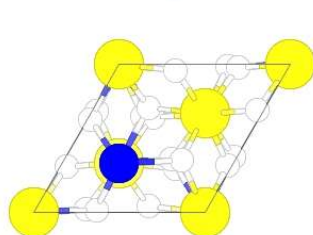
Ilmenite (Others, $FeTiO_3$)



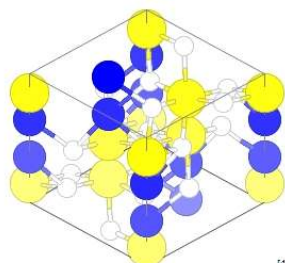
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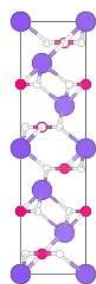
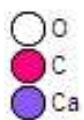
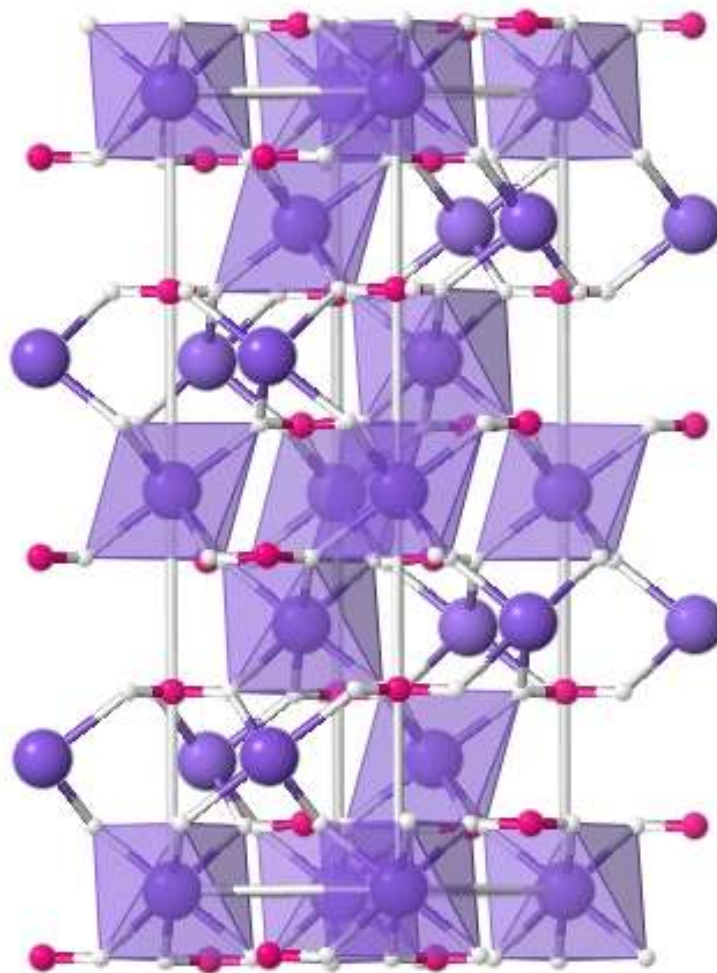


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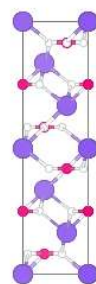


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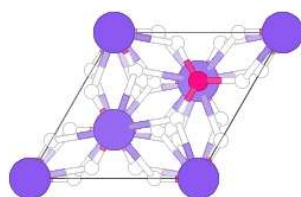
Calcite (Others, CaCO_3)



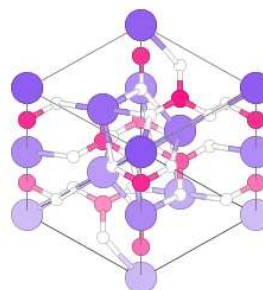
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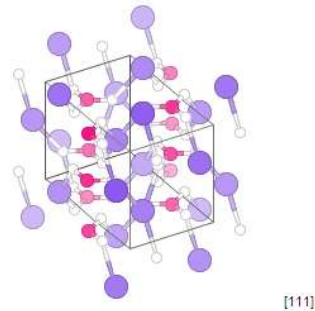
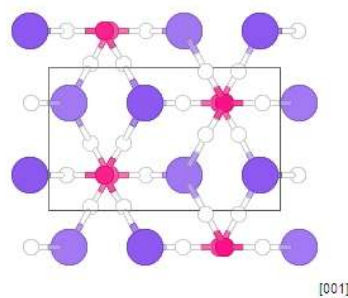
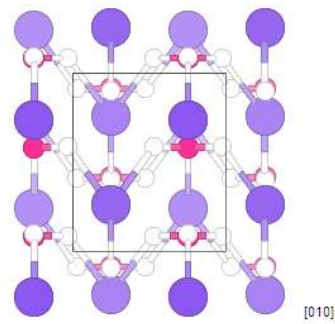
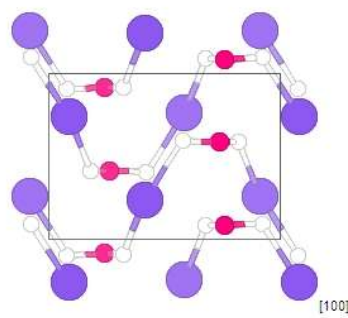
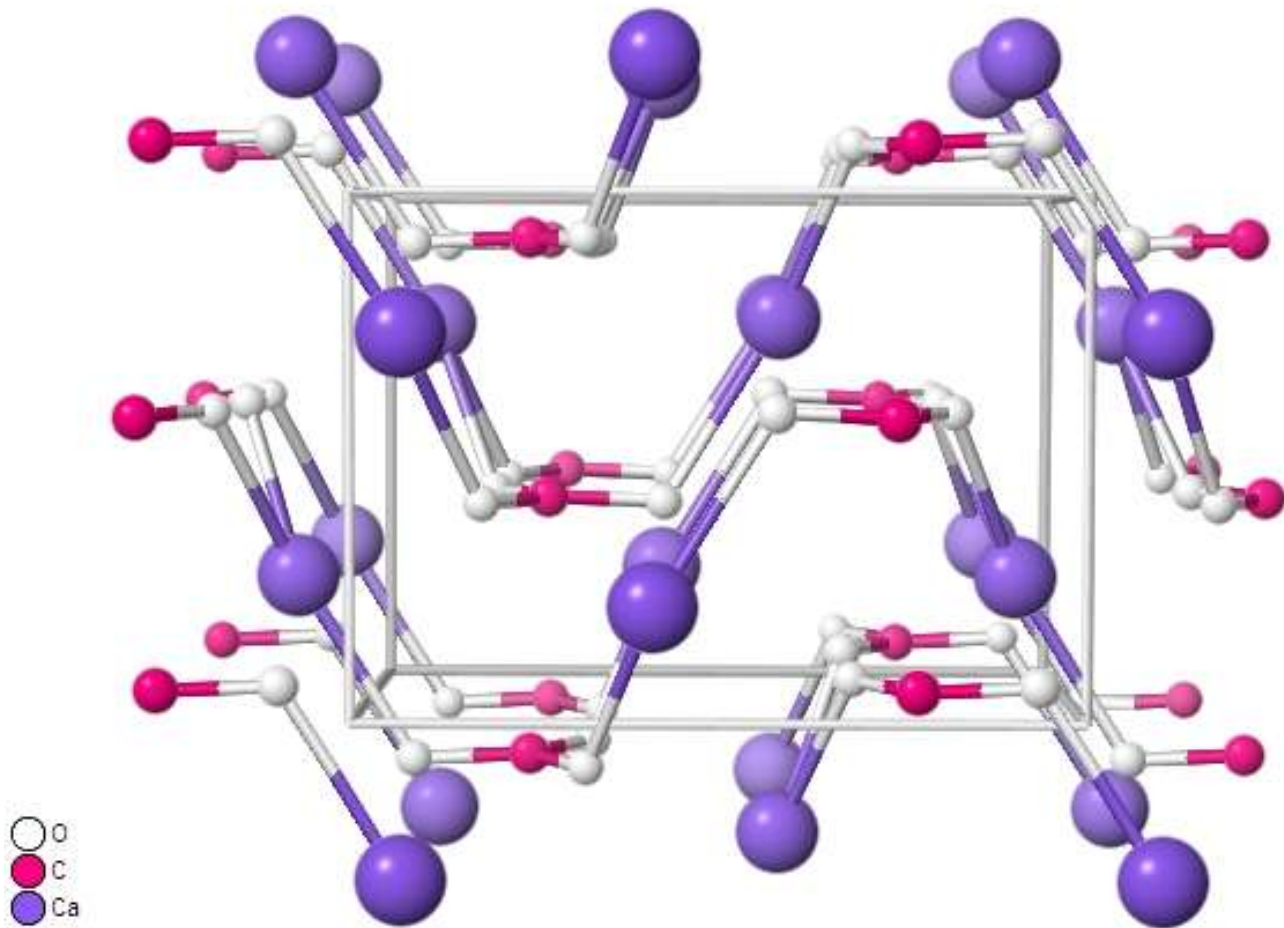


[001]



[111]

Aragonite (Others, CaCO_3)



Disclaimer

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You may contact me via email at: *steffenweber@comcast.net*

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