Basic structure of FeAs-based compound

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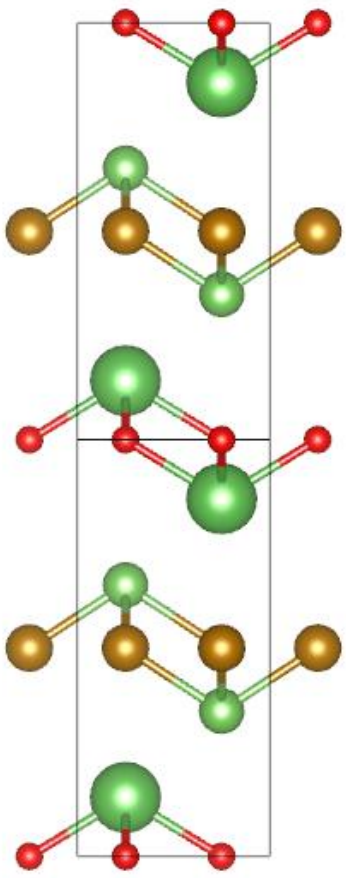
12-28-2018

System	Material
1111	LaOFeSe
122	BaFe2As2
111	LiFeAs
111	NaFeAs

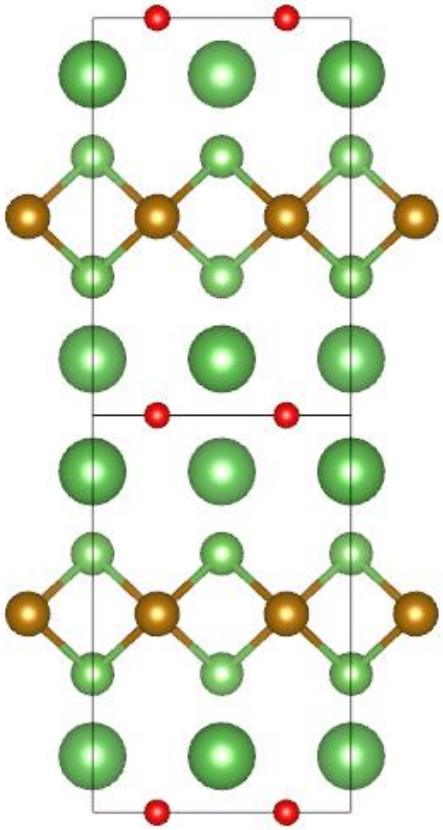
System	Space group	High/low T Lattice Constant	Tc
LaOFeAs	P4/nmm	a=4.03533 c=8.74090	26
	Cmma	a=5.571, b=5.863, c=8.7196	



(LaO)1+

(FeAs)1-

JACS, 130, 3296 (2008)

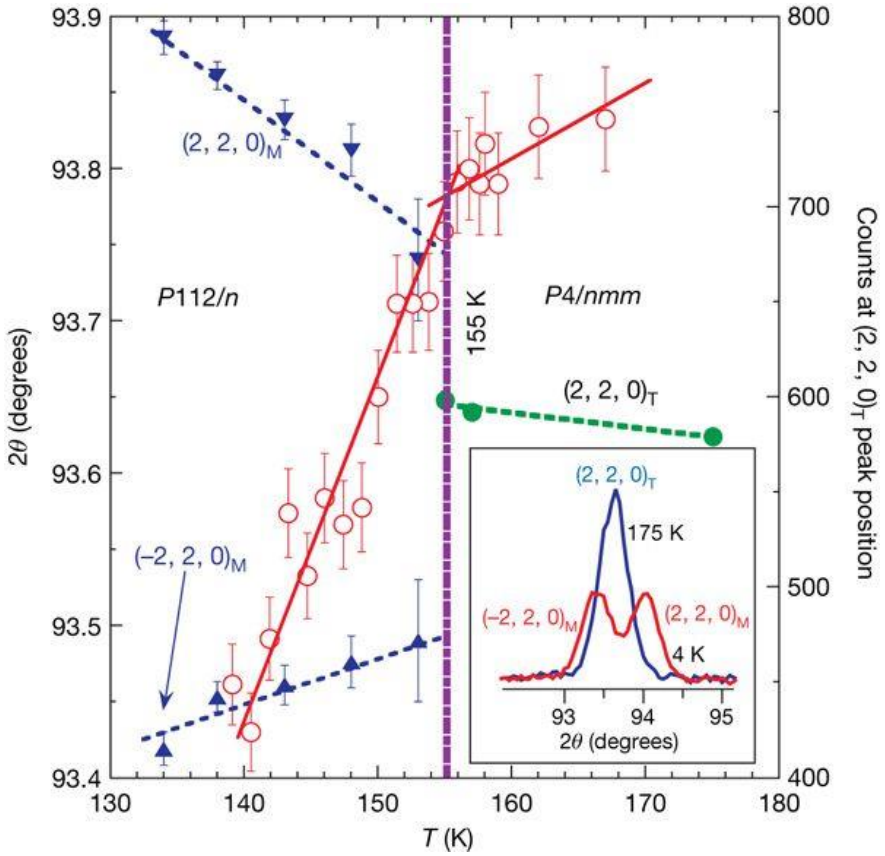


Collinear AFM
(SDW)

Supercond. Sci. Technol, 21, 125028 (2008)

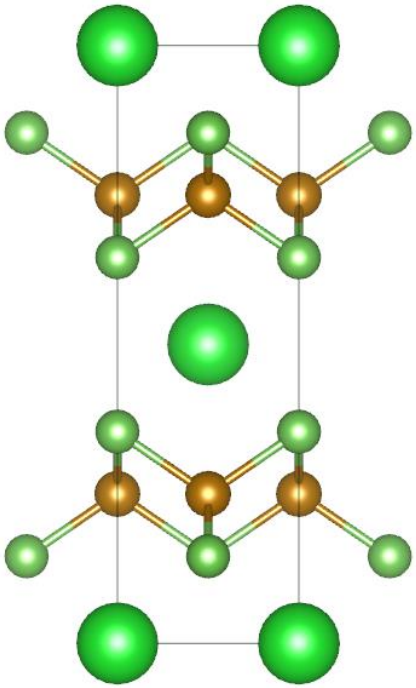
Low temperature magnetic properties

Low T (<138K)			
Collinear AFM (SDW)			



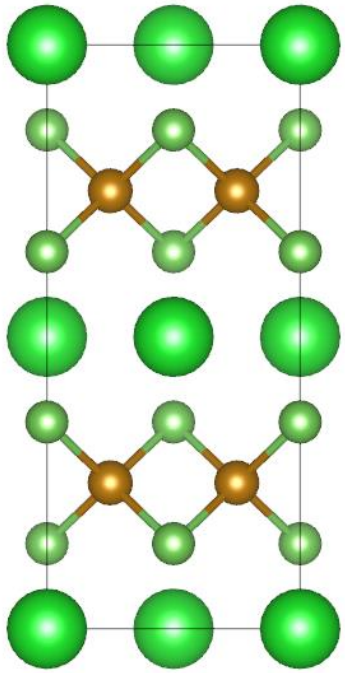
Nature, 453, 899 (2008)

System	Space group	High/Low T Lattice Constant	Tc
BaFe2As2	I4/mmm	a=3.961, c=1203	\
	Fmmm	a=5.5746, b=5.6139, c=12.9594	



(Ba)2+

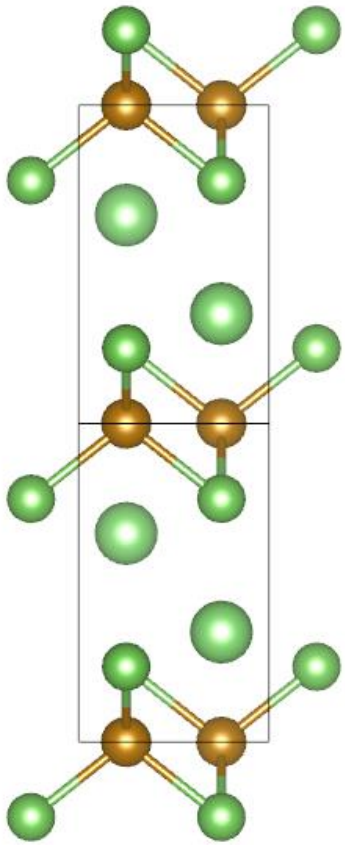
(FeAs)1-



Collinear AFM
(SDW)

JACS, 136, 16932 (2014)

System	Space group	High/Low T Lattice Constant	Tc
LiFeAs	P4/mmm	a=3.775, c=6.353	18
		No structure transition	

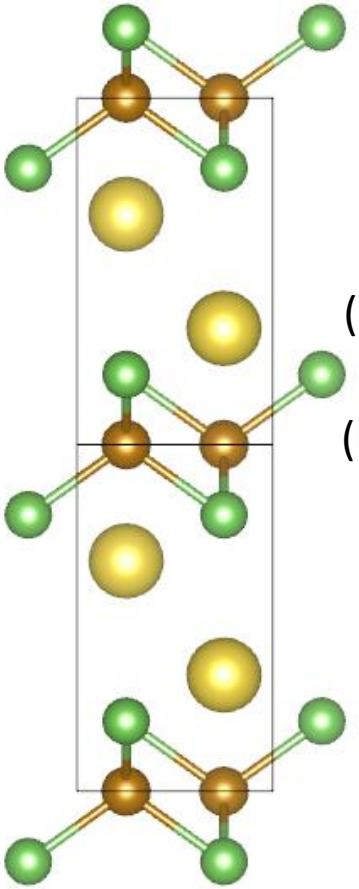


(Li)1+

(FeAs)1-

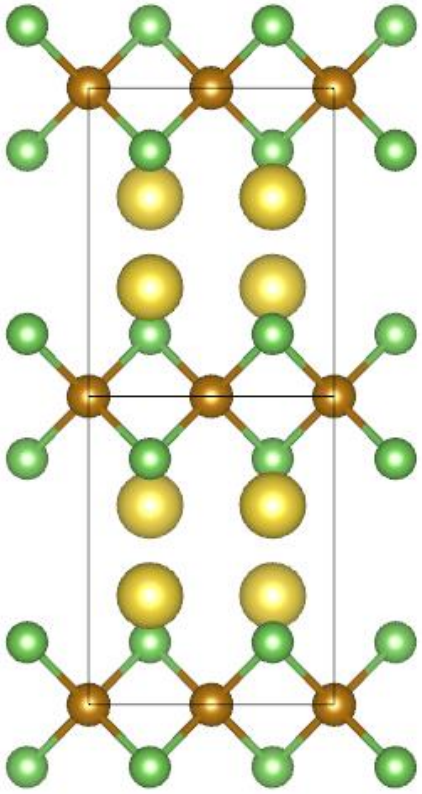
Chem. Commun. 45, 5918 (2008)

System	Space group	High/Low T Lattice Constant	Tc
NaFeAs	P4/mmm	a=3.945, c=6.997	<9
	Cmma	a=5.589, b=5.569, c=6.992	



(Na)1+

(FeAs)1-



Collinear AFM
(SDW)

PRB 80, 020504 (2009)