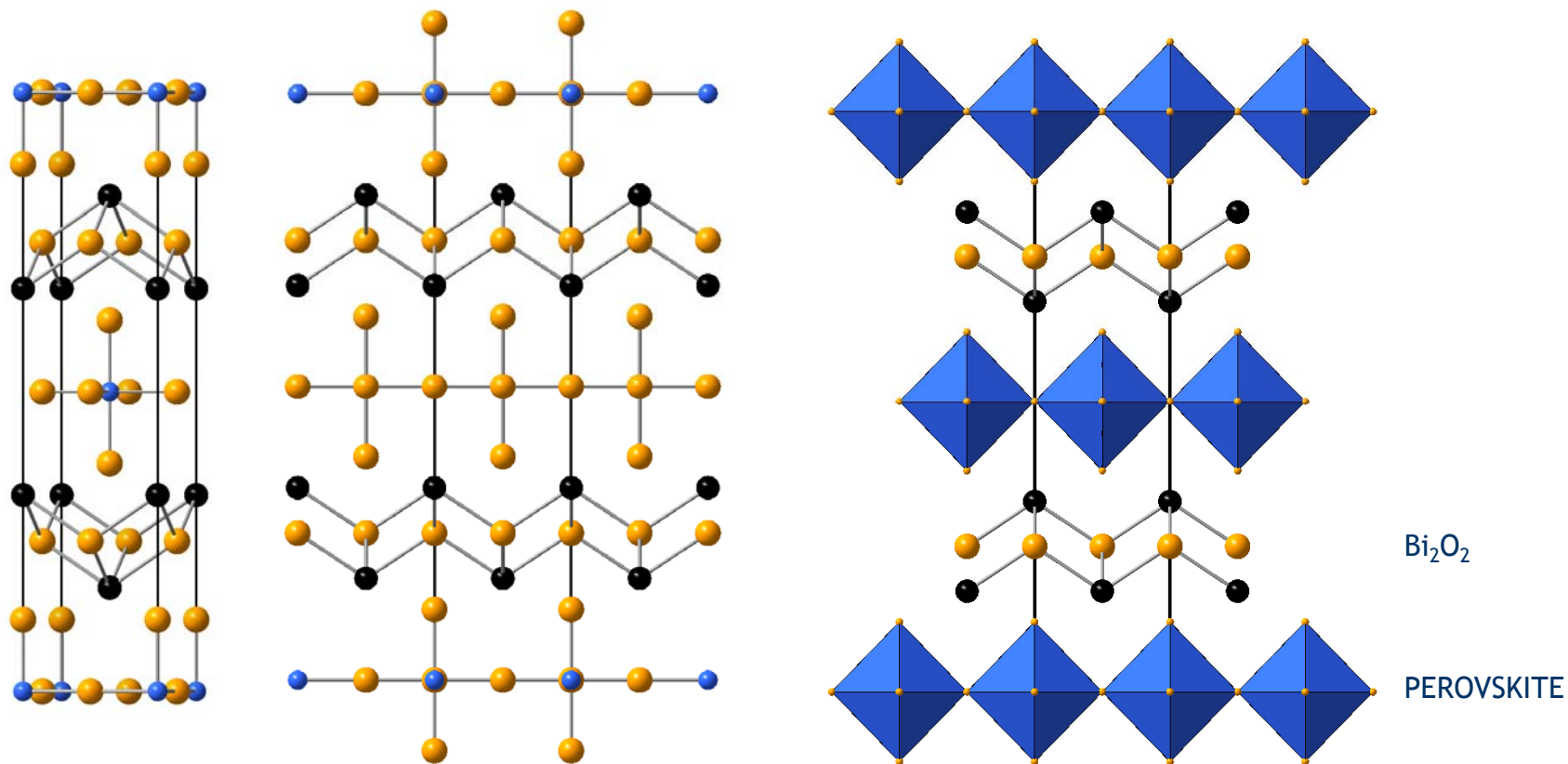


Class 10: Other ferroelectrics



Views of the Aurivillius phase $\text{Bi}_2\text{TiO}_4\text{F}_2$
From: B. Aurivillius, Ark. Kemi 4 (1952) 39.

Class 10: Other ferroelectrics

$a = 3.802(1)$ $c = 16.33(2)$ Å; $I4/mmm$

Bi 0 0 0.327(6)

Ti 0 0 0

O/F 0 0.5 0

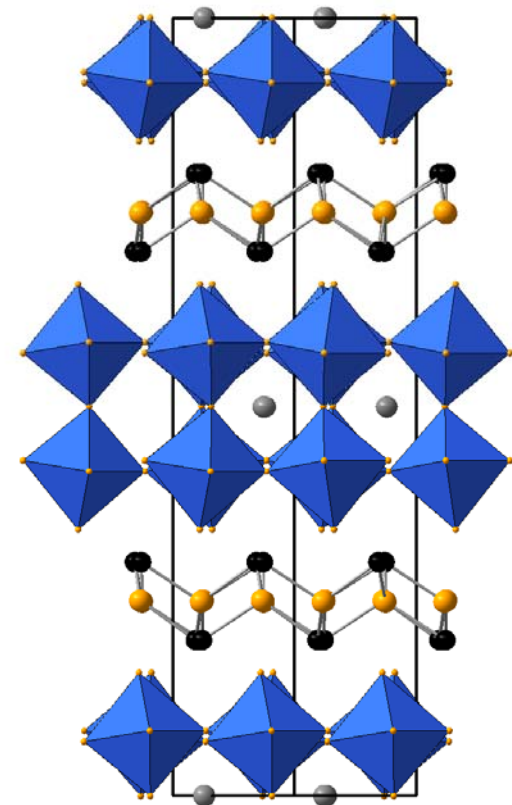
O/F 0 0 0.12(1)

O/F 0.5 0.25 0

The Aurivillius phase $\text{Bi}_2\text{TiO}_4\text{F}_2$

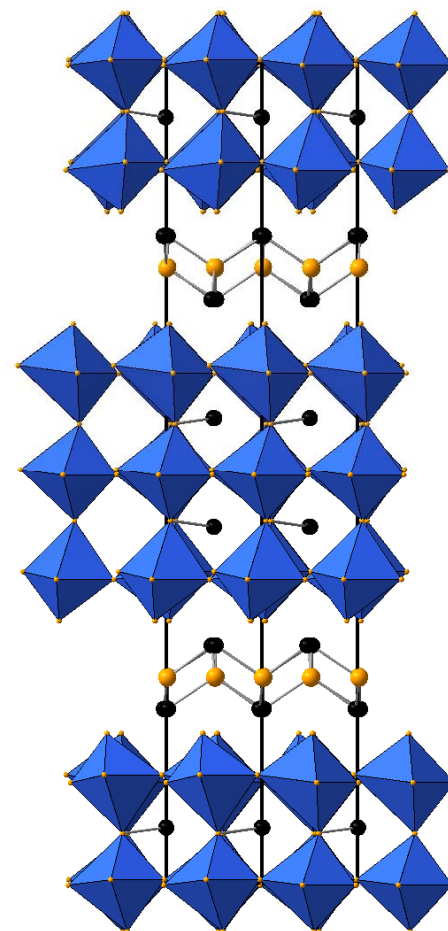
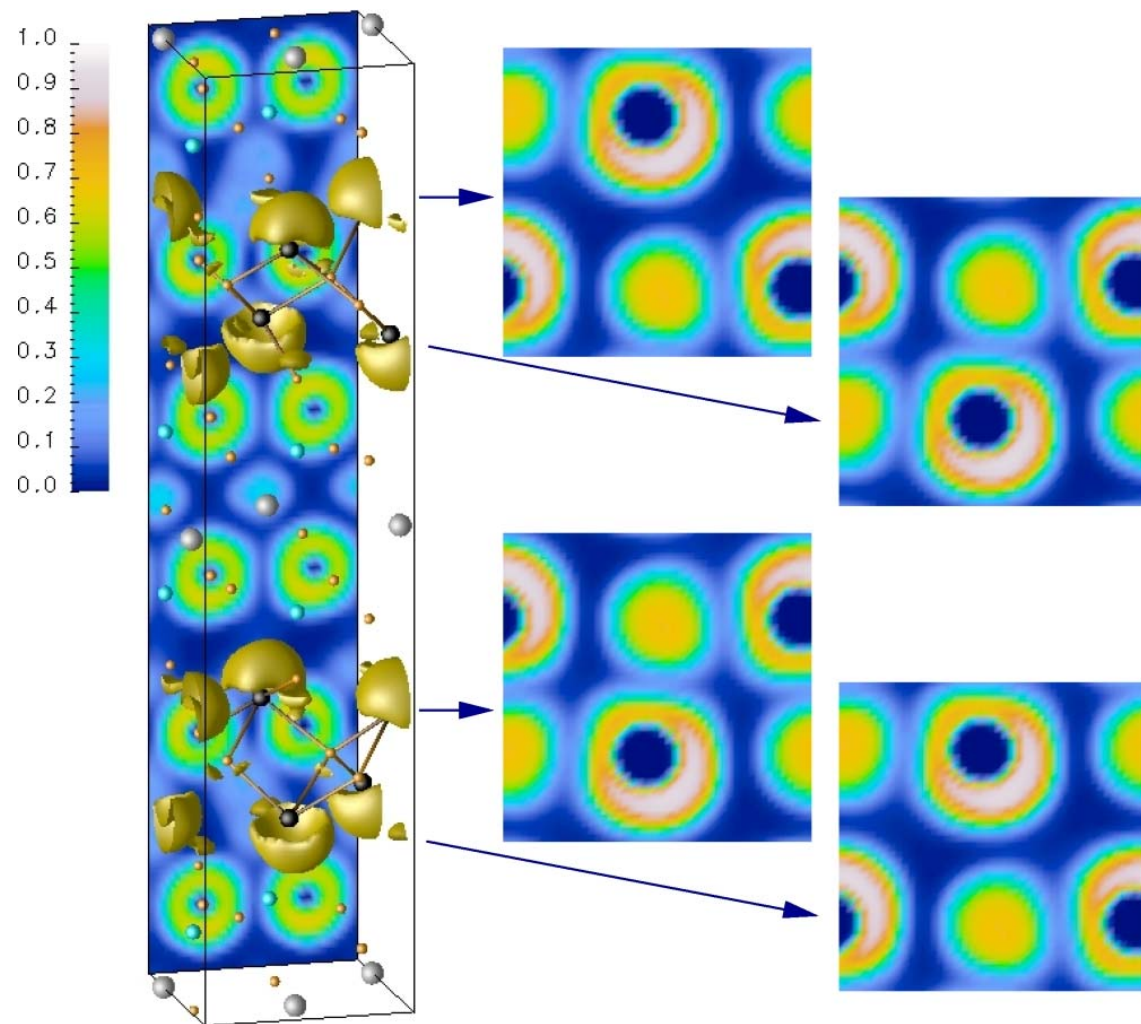
From: B. Aurivillius, Ark. Kemi 4 (1952) 39.

The great advantage is that thin films are fatigue free: Paz de Araujo et al. Nature, 374 (1995) 627. [DOI Link](#)

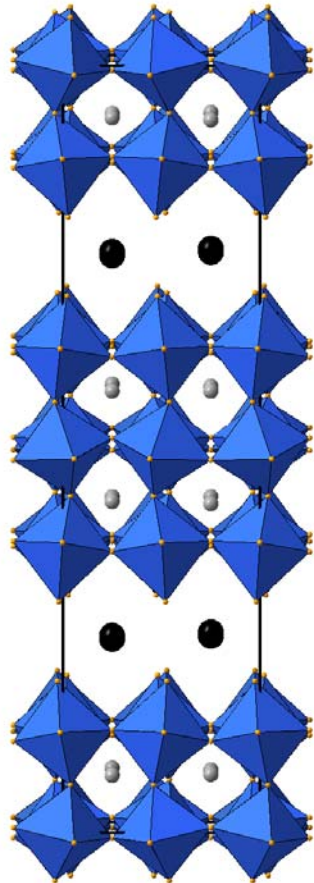


$\text{SrBi}_2\text{Ta}_2\text{O}_9$: The next member
The structure is ferroelectric

Class 10: Other ferroelectrics



Lone pairs in SBT: The polarization is in plane.



The Dion-Jacobson phases:

Dion, Ganne and Tournoux, *Mater. Res. Bull.* 16 (1981) 1429

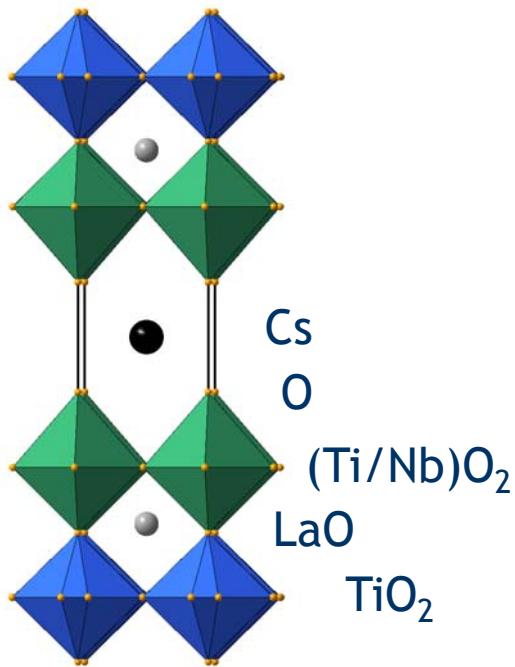
Jacobson, Johnson, and Lewandowski *Inorg. Chem.* 24 (1985) 3727.



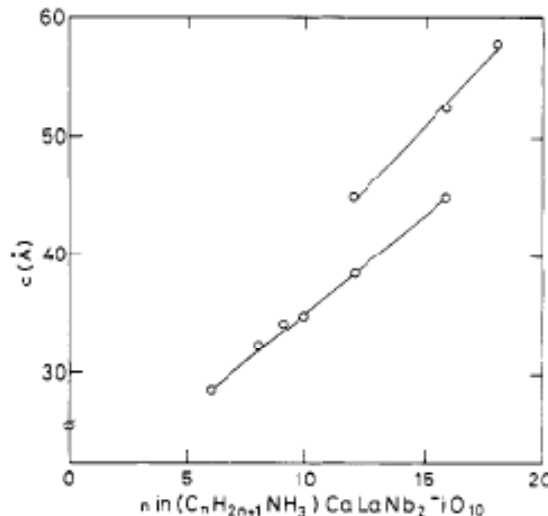
Class 10: Other ferroelectrics

$\text{ACa}_{2-x}\text{La}_x\text{Nb}_{3-x}\text{Ti}_x\text{O}_{10}$ (A = K, Rb, Cs) and the solid acids $\text{HCa}_{2-x}\text{La}_x\text{Nb}_{3-x}\text{Ti}_x\text{O}_{10}$ ($0 < x \leq 2$)

Gopalakrishnan, Uma, and Bhat, *Chem. Mater.* 5 (1993) 132.



The Cs^+ is replaced by H^+ and then exposed to long chain amines.



$\text{p}K_a$ of the organic base	intercalated amine content
10.64	0.98
10.65	0.96
10.64	0.94
10.64	0.99
10.63	1.01
10.63	0.97
10.61	1.00
10.61	0.96
10.61	1.00
11.30	0.60
5.30	0.60
10.64	0.53
10.64	0.48
11.30	0.60
11.30	0.62

1970

J. Phys. Chem. **1993**, *97*, 1970–1973

**Visible Light Induced Photocatalytic Behavior of a Layered Perovskite Type Niobate,
 $\text{RbPb}_2\text{Nb}_3\text{O}_{10}$**

J. Yoshimura, Y. Ebina, J. Kondo, and K. Domen*

*Research Laboratory of Resources Utilization, Tokyo Institute of Technology, 4259 Nagatsuta, Midori-ku,
Yokohama 227, Japan*

A. Tanaka

Nikon Company, 1773 Asamizodai, Sagamihara 228, Japan

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