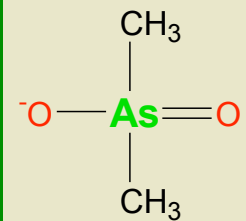
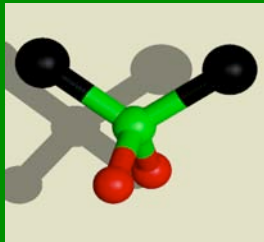


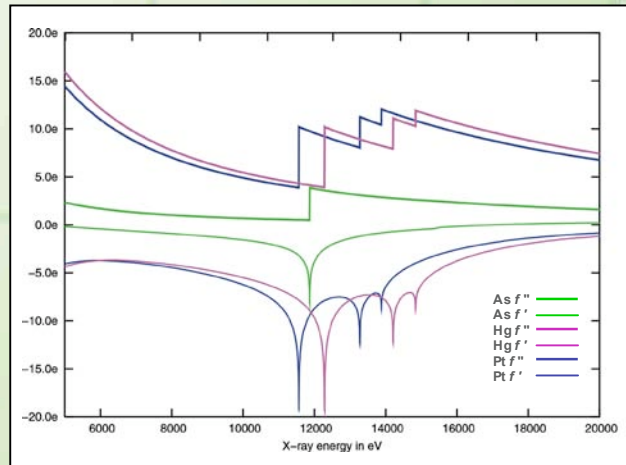
# Using Cacodylate for your crystallization set-up is bad medicine!

## Cacodylate:



- can distort the active site of enzymes [1]

since it is able to react with free sulfhydryl groups and thus can covalently bind to cysteine sulfur. Your protein conformation may be seriously affected [2]!



- can interfere with your MAD experiment

The K absorption edge of As is at an energy of 11.8667 keV, close to the LIII absorption edges of Hg (12.2839 keV) and Pt (11.5637 keV).

[1] Goldgur *et al.* (1998) Three new structures of the core domain of HIV-1 integrase: An active site that binds magnesium. *Proc. Natl. Acad. Sci.*, **95**:9150.

[2] Noel *et al.* (1993) The 2.2 Å crystal structure of transducin- $\alpha$  complexed with GTP gamma S. *Nature* **366**:654.

## Cacodylate is very toxic

### HEALTH HAZARD INFORMATION

**May be fatal if swallowed. Known carcinogen in humans.** Harmful if inhaled, may be harmful by skin contact. Long-term exposure may lead to kidney and liver damage. Eye and skin irritant.

**MOUSE LD50** (oral): 4 mg/kg



**10 ml of 0.1 M  
Cacodylate buffer ...**

**... are enough for ...**



**... 2650 mice  
(20 g)**



**... 1 PhD-student  
(53 kg)**

**Jena Bioscience offers an ALTERNATIVE:**

Cacodylate ( $pK_a$  6.3) is substituted by MES ( $pK_a$  6.2) in all our screens!