

GY 302: Crystallography and Mineralogy

Lab 8: Classes VI and VII: Sulfates, Chromates, Molybdates, Tungstates, Phosphates, Vanadates, Arsenates

Drawer 8

Your task today: This is the list of minerals that you will be responsible for the next lab quiz.

Mineral	Formula	System	Specimen Quality☺
Class VI: Sulfates, Chromates, Molybdates, Tungstates			
Alunite	$KAl_3(SO_4)_2(OH)_6$	Hexagonal (Trig)	f, g
Anglesite	$PbSO_4$	Orthorhombic	p, g, g, g
Anhydrite	$CaSO_4$	Orthorhombic	g (x4)
Barite	$BaSO_4$	Orthorhombic	g (x11)
Bronchantite	$CuSO_4(OH)_6$	Monoclinic	g, g
Celestite/Celestine	$SrSO_4$	Orthorhombic	g, g, g
Crocoite	$PbCrO_4$	Monoclinic	g, g
*Ferrimolybdite	$Fe(MoO_4)_3 \cdot 8H_2O$	Orthorhombic	f, g
Glauberite	$Na_2Ca(SO_4)_2$	Monoclinic	f, g, g
Gypsum	$CaSO_4 \cdot 2H_2O$	Monoclinic	g (x7)
*Langbeinite	$K_2Mg_2(SO_4)_3$	Isometric	f, f, g
Polyhalite	$K_2Ca_2Mg(SO_4)_4 \cdot 2(H_2O)$	Triclinic	g (x5)
Scheelite	$CaWO_4$	Tetragonal	f, f, g (x4)
Wolframite	$(Fe, Mn)WO_4$	Monoclinic	g, g
Wulfenite	$PbMoO_4$	Tetragonal	g, g
Class VII: Phosphates, Vanadates, Arsenates			
Adamite	$Zn(AsO_4)(OH)$	Orthorhombic	g, g
*Amblygonite	$(Li, Na)AlPO_4(F, OH)$	Triclinic	f, g, g
Annabergite	$Ni_3(AsO_4)_2 \cdot 8H_2O$	Monoclinic	p, p
Apatite	$Ca_5(PO_4)_3(F, Cl, OH)$	Hexagonal	g (x5)
*Autunite	$Ca(UO_2)_2(PO_4)_2 \cdot 10-12 H_2O$	Tetragonal	g, g (restricted)
*Carnotite	$K_2(UO_2)_2(VO_4)_2 \cdot 3H_2O$	Monoclinic	f, g (restricted)
Erythrite	$Co_3(AsO_4)_2 \cdot 8H_2O$	Monoclinic	f, g
Lazulite	$(Mg, Fe)Al_2(PO_4)_2(OH)_2$	Monoclinic	g, g, g
Mimetite	$Pb_5(AsO_4)_3Cl$	Hexagonal	g, g, g
Monazite	$(Ce, La, Y, Th)PO_4$	Monoclinic	g, g (restricted)
Purpurite	$MnPO_4$	Orthorhombic	f, g
Pyromorphite	$Pb_5(PO_4)_3Cl$	Hexagonal	f, f, g
Triphylite	$Li(Fe, Mn)PO_4$	Orthorhombic	g, g, g
Turquoise	$CuAl_6(PO_4)_4(OH)_8 \cdot 5H_2O$	Triclinic	g, g, g
*Tyuyamunite	$Ca(UO_2)_2(VO_4)_2 \cdot 5-8 \frac{1}{2} H_2O$	Monoclinic	g, g (restricted)
Vanadinite	$Pb_5(VO_4)_3Cl$	Hexagonal	g, g, g
Variscite	$AlPO_4 \cdot 2H_2O$	Orthorhombic	p, f, f, g, g
Vivianite	$Fe_3(PO_4)_2 \cdot 8H_2O$	Monoclinic	f, g, g
Wavellite	$Al_3(PO_4)_2(OH)_3 \cdot 2H_2O$	Orthorhombic	f, g, g
☺ p-poor, f-fair, g-good			
* These samples will <u>not</u> appear on any tests or quizzes			

Next Tuesday (1:00-1:20 PM): Mineral lab quiz 5 (Classes VI and VII).