

Name and formula

Reference code:	00-004-0784
Mineral name:	Gold, syn
Compound name:	Gold
Empirical formula:	Au
Chemical formula:	Au
Mineral classification:	Gold (Supergroup), 1C-disordered (Group)

Crystallographic parameters

Crystal system:	Cubic
Space group:	Fm-3m
Space group number:	225
a (Å):	4.0786
b (Å):	4.0786
c (Å):	4.0786
Alpha (°):	90.0000
Beta (°):	90.0000
Gamma (°):	90.0000
Calculated density (g/cm ³):	19.30
Measured density (g/cm ³):	19.30
Volume of cell (10 ⁶ pm ³):	67.85
Z:	4.00
RIR::	-

Subfiles and quality

Subfiles:	Alloy, metal or intermetallic, Ceramic, Ceramic - Semiconductor, Common Phase, Educational pattern, Forensic, Inorganic, Mineral, Mineral - Mineral, Mineral - Synthetic, NBS pattern
Quality:	Star (S)

Comments

Color: Yellow metallic
 ANX: N
 Creation Date: 9/1/1954
 Cross-References: ICDD:04-007-8000
 ANX: N
 Analysis: Spectrographic analysis (%): Si 0.001, Ca 0.001, Ag 0.001. Color: Yellow metallic. Melting Point: 1334.6-1336.2 K. Opaque Optical Data: Opaque mineral optical data on specimen from unspecified locality: RR2Re=71.6, Disp.=16, VHN100=53-58, Color values=.384, .391, 72.7, Ref.: IMA Commission on Ore Microscopy QDF. Optical Data: B=0.366. Sample Source or Locality: Sample purified at NBS, Gaithersburg, Maryland, USA and is about 99.997% Au. Temperature of Data Collection: 299 K. Unit Cell Data Source: Powder Diffraction.

References

Primary reference: Swanson, Tatge., *Natl. Bur. Stand. (U. S.), Circ. 539, I, 33, (1953)*
 Optical data: Winchell., *Elements of Optical Mineralogy, 17*

Peak list

For. CuKα xrays

No.	h	k	l	d [Å]	2θ [°]	I [%]
1	1	1	1	2.35500	38.185	100.0
2	2	0	0	2.03900	44.393	52.0
3	2	2	0	1.44200	64.578	32.0
4	3	1	1	1.23000	77.549	36.0
5	2	2	2	1.17740	81.724	12.0
6	4	0	0	1.01960	98.137	6.0
7	3	3	1	0.93580	110.802	23.0
8	4	2	0	0.91200	115.264	22.0
9	4	2	2	0.83250	135.422	23.0

Structure

No.	Name	Element	X	Y	Z	Biso	sof	Wyck.
1	AU1	Au	0.00000	0.00000	0.00000	0.5000	1.0000	4a

Stick Pattern

