

## Tetrazolyl and tetrazolylidene complexes of gold: a synthetic and structural study

William F. Gabrielli, Stefan D. Nogai, Jean M. McKenzie, Stephanie Cronje and Helgard G. Raubenheimer\*

5 Department of Chemistry and Polymer Science,  
University of Stellenbosch,  
Private Bag X1,  
Matieland,  
10 7602,  
South Africa.  
E-mail: [hgr@sun.ac.za](mailto:hgr@sun.ac.za);  
Fax: +27 21 808 3849;  
Tel: +27 21 808 3850

15

### Crystal data, data collection and structure refinement for compound 5.

Compound	5
Empirical formula	C <sub>29</sub> H <sub>27</sub> AuF <sub>3</sub> N <sub>4</sub> O <sub>3</sub> PS
<i>M</i> <sub>r</sub>	796.54
Temp. (K)	100(2) K
Wavelength (Å)	0.71073 Å
Crystal system	Monoclinic
Space group	P2 <sub>1</sub> /c
a (Å)	22.829(2)
b (Å)	12.0611(12)
c (Å)	23.755(2)
α (°)	90
β (°)	112.286(2)
γ (°)	90
Volume (Å <sup>3</sup> )	6052.3(10)
Z	8
<i>d</i> <sub>calcd</sub> (g/cm <sup>3</sup> )	1.748
Absorption coefficient (μ, mm <sup>-1</sup> )	5.039
F(000)	3120
Crystal size (mm <sup>3</sup> )	0.20 x 0.10 x 0.10
No. of reflections collected	31715
No. independent reflections	11034 [R(int) = 0.0454]
Data/restraints/parameters	11034 / 19 / 253
Goof on F <sup>2</sup>	1.035
R1 [I ≥ 2σ(I)]	R <sub>1</sub> = 0.1114
wR2 <sup>a</sup>	wR <sub>2</sub> = 0.2840
Largest diff. peak and hole (e.Å <sup>-3</sup> )	3.542 and -4.652
Weighing scheme	a = 0.1046 / b = 276.2091

<sup>a</sup>  $wR2 = \{\sum[w(F_o^2 - F_c^2)^2] / \sum[w(F_o^2)^2]\}^{1/2}$ ;  $w = 1 / [\sigma^2(F_o^2) + (ap)^2 + bp]$ ;  $p = (F_o^2 + 2F_c^2) / 3$ .

20

Due to the low quality of the crystals only gold, sulfur and phosphorous atoms were refined anisotropically. Five- and six-membered rings were restrained to be ideal penta- or hexagons respectively. This structure is only intended to give an idea of the connectivity of the compound. Any  
25 more detailed discussion of the geometric features is subject to extreme caution.