

POLYMER-CAPPED GOLD NANOPARTICLES BY LIGAND-EXCHANGE REACTIONS

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Supplementary Information

Table S1 - TEM data for PEO₄₅S-Au NP freshly prepared and kept for 6 months at 4°C

Initial		After 6 months	
514 nm	4.6±1.4 nm	517 nm	4.18±1.0 nm (redissolved in water)
514 nm	4.1±1.2 nm	517 nm	4.04±1.1 nm (redissolved in water)
		517 nm	3.78±1.1 nm (redissolved in EtOH 70%)

Table S2 - Thermal stability data for PEO₄₅S-Au NP

Treatment	Analytical data	
no heating	514 nm	4.10±0.9 nm
30°C 1h	515 nm	4.06±1.0 nm
40°C 1h	514 nm	3.50±0.9 nm
50°C 1h	514 nm	3.80±1.0 nm
60°C 1h	513 nm	3.90±1.1 nm
60°C overnight	511 nm	3.70±1.0 nm

Table S3 - Analytical data for PEO₄₅S-Au sterilized under various conditions.

	Before sterilization	After sterilization
1.	4.2±1.0	4.2±1.2 sterilized as powder (wet procedure)
		4.3±1.2 sterilized as solution (wet procedure)
2.	4.0±1.1	4.6±1.3 sterilized as powder (dry procedure, no vacuum)
		4.4±1.4 sterilized as powder (dry procedure, vacuum)

Table S4 - Thermal stability data for PS₁₆S-Au NP dispersed in PS_{25K}

Treatment	Analytical data	
no heating	526 nm	5.14±1.0 nm
140°C 4h	531 nm	4.73±1.3 nm
160°C 1h	529 nm	4.67±1.1 nm

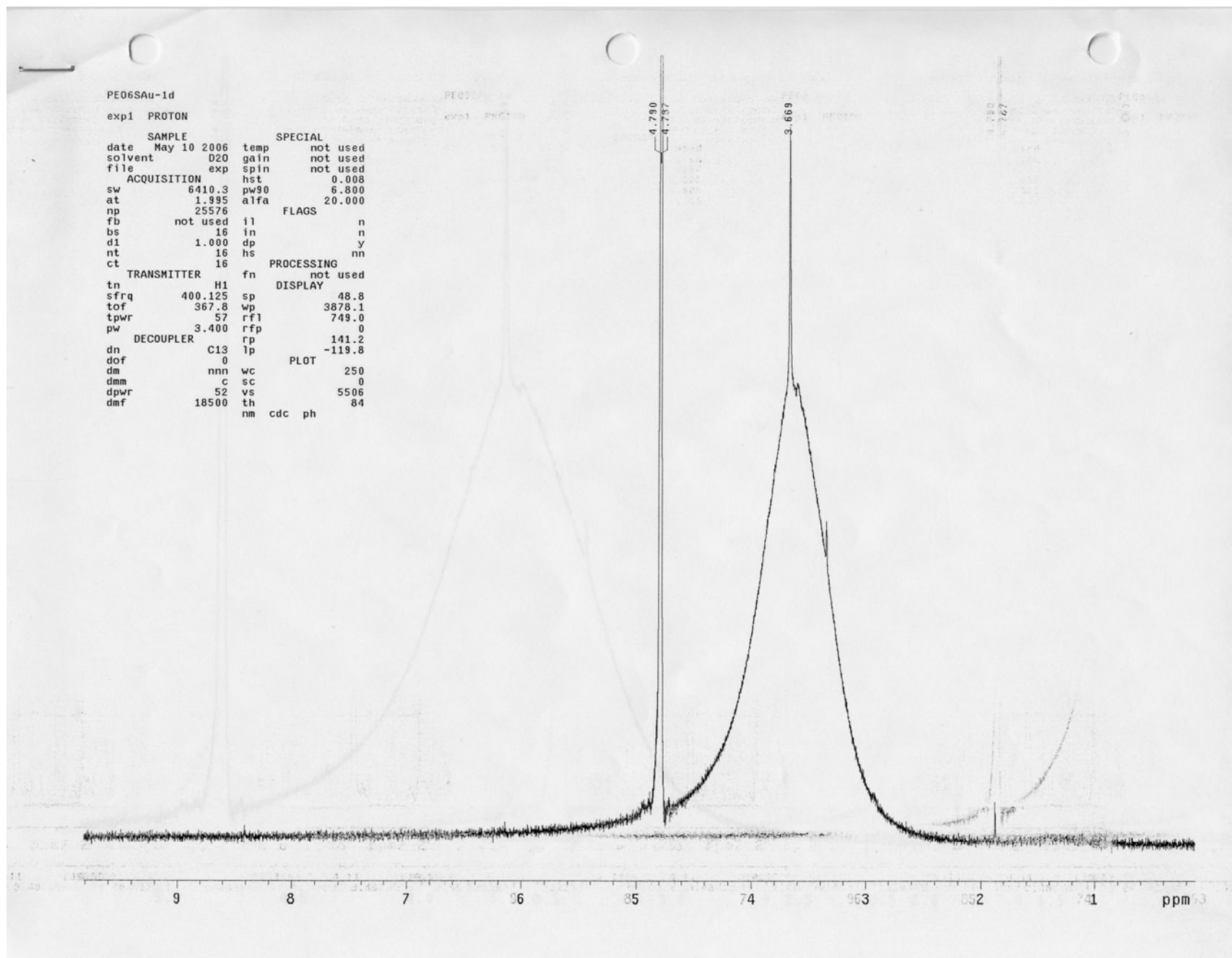


Figure S1 – ^1H NMR spectrum of $\text{PEO}_6\text{S-Au NP}$ in D_2O

Sample: PEO6SAu
Size: 4.7210 mg
Method: Ramp
Comment: Simona sample (Lennox)

TGA

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Operator: Petr Fiurasek
Run Date: 17-May-06 10:00
Instrument: TGA Q500 V4.10 Build 157

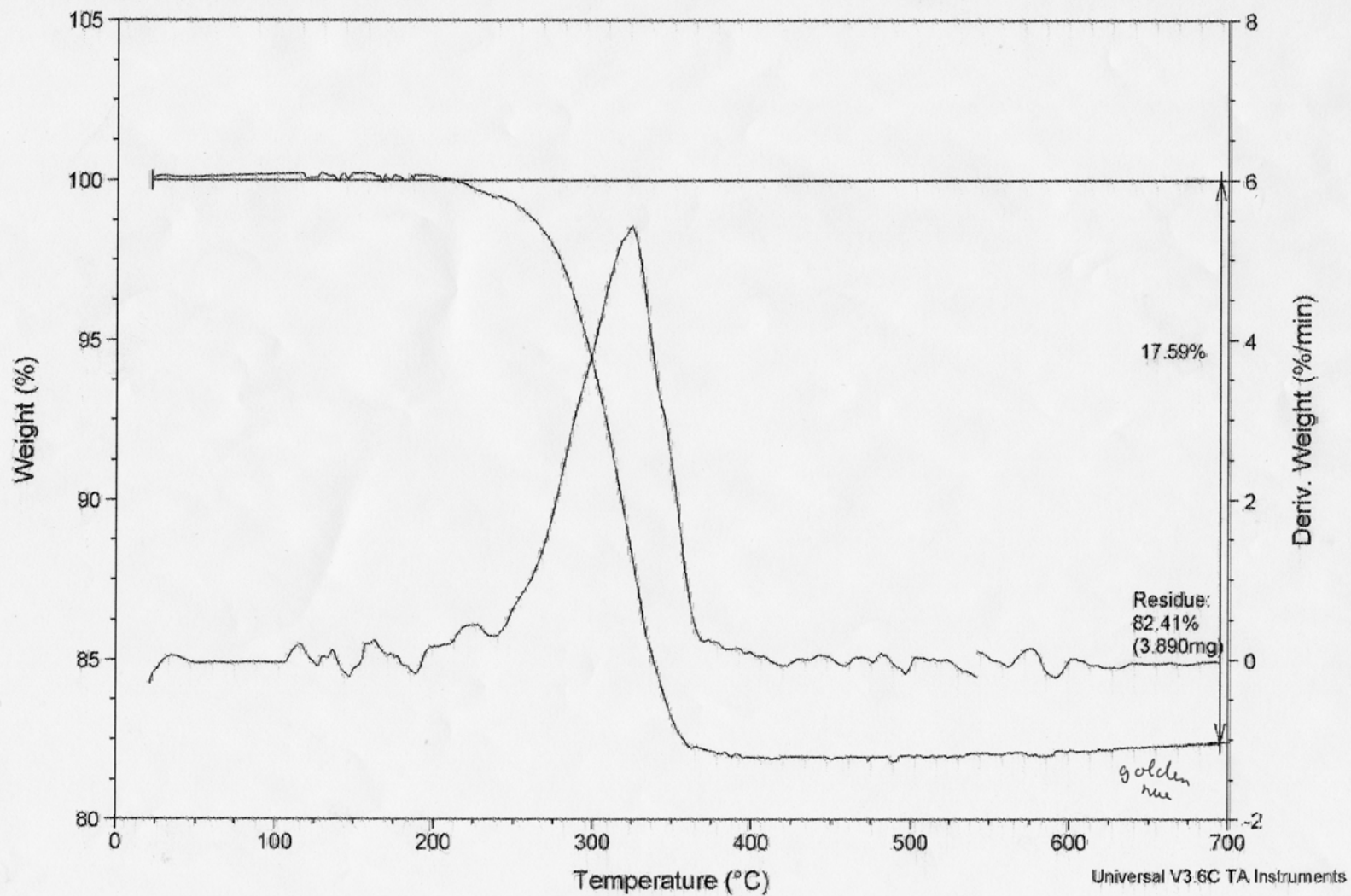


Figure S2 – TGA data for PEO₆S-Au NP

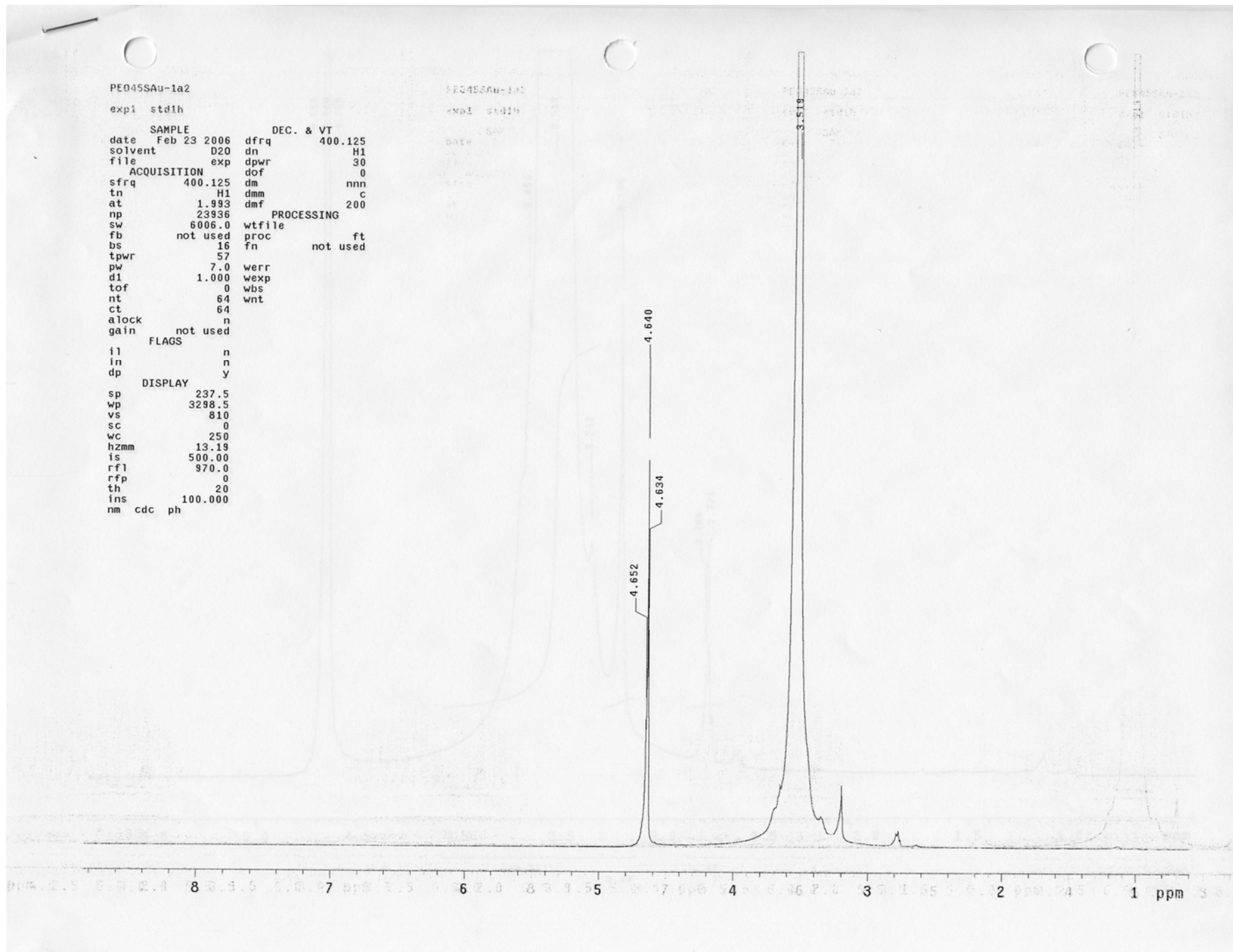


Figure S3 – ^1H NMR spectrum of $\text{PEO}_{45}\text{S-Au NP}$ in D_2O

Sample: PEO45SAU-1a2
Size: 3.6420 mg
Method: Ramp
Comment: Simona, gold nanoparticles

TGA

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Operator: Petr Fiurasek
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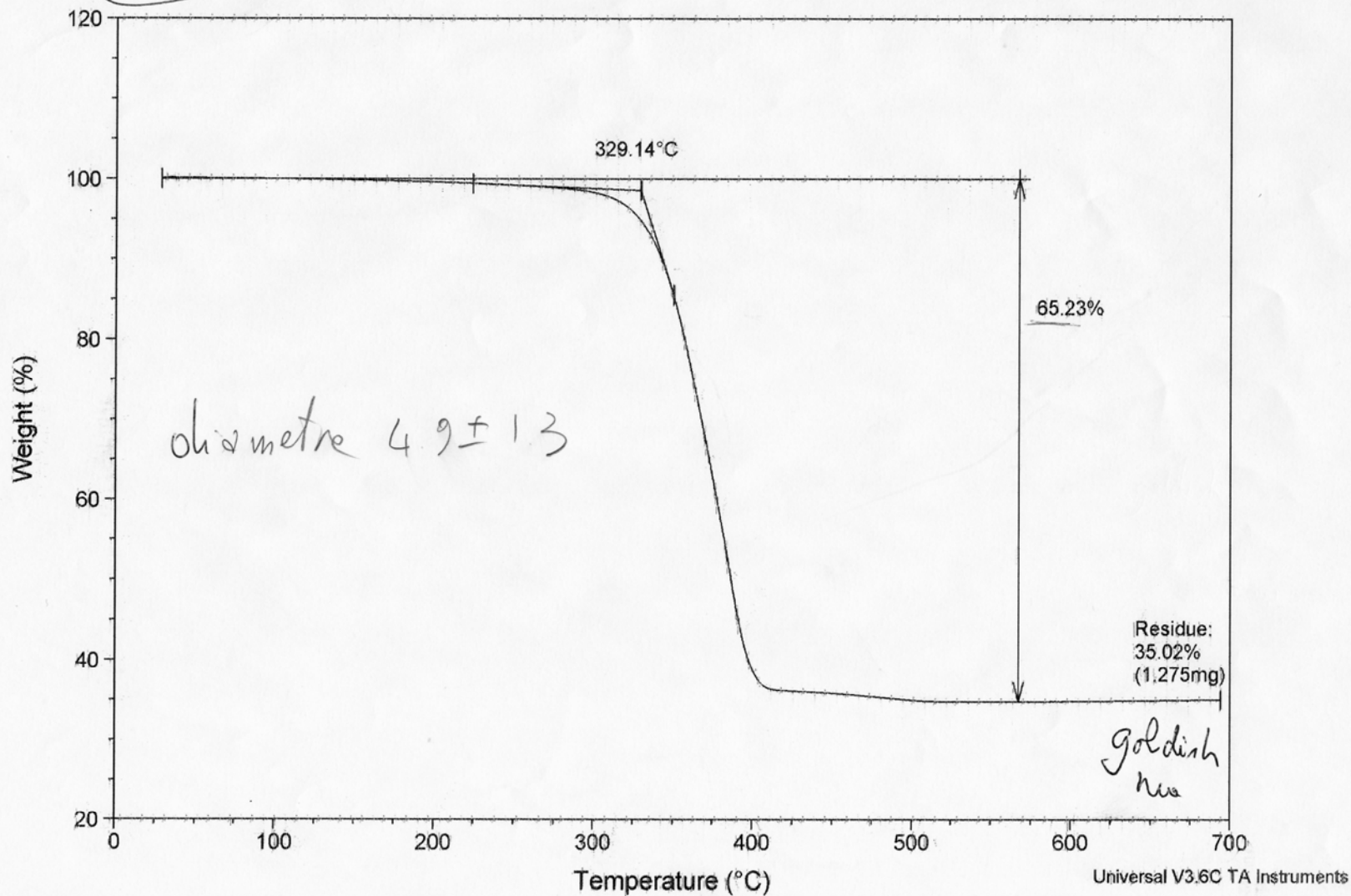


Figure S4 – TGA data for PEO₄₅S-Au NP

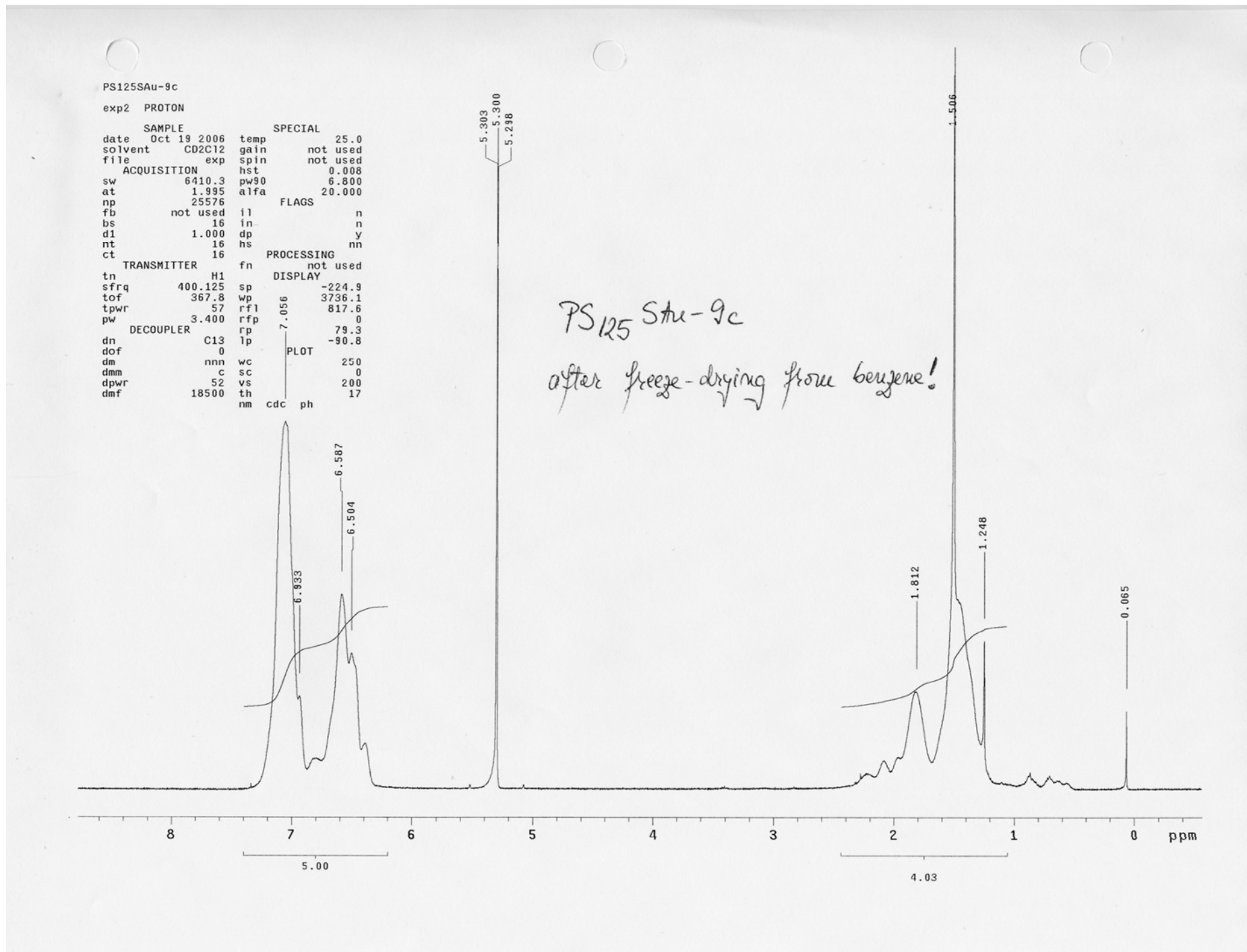


Figure S5 – ¹H NMR spectrum of PS₁₂₅S-Au NP in CD₂Cl₂ (nanoparticles freeze-dried from benzene)

Sample: PS125SAu10
Size: 3.5530 mg
Method: Ramp
Comment: Simona (Lennox)

TGA

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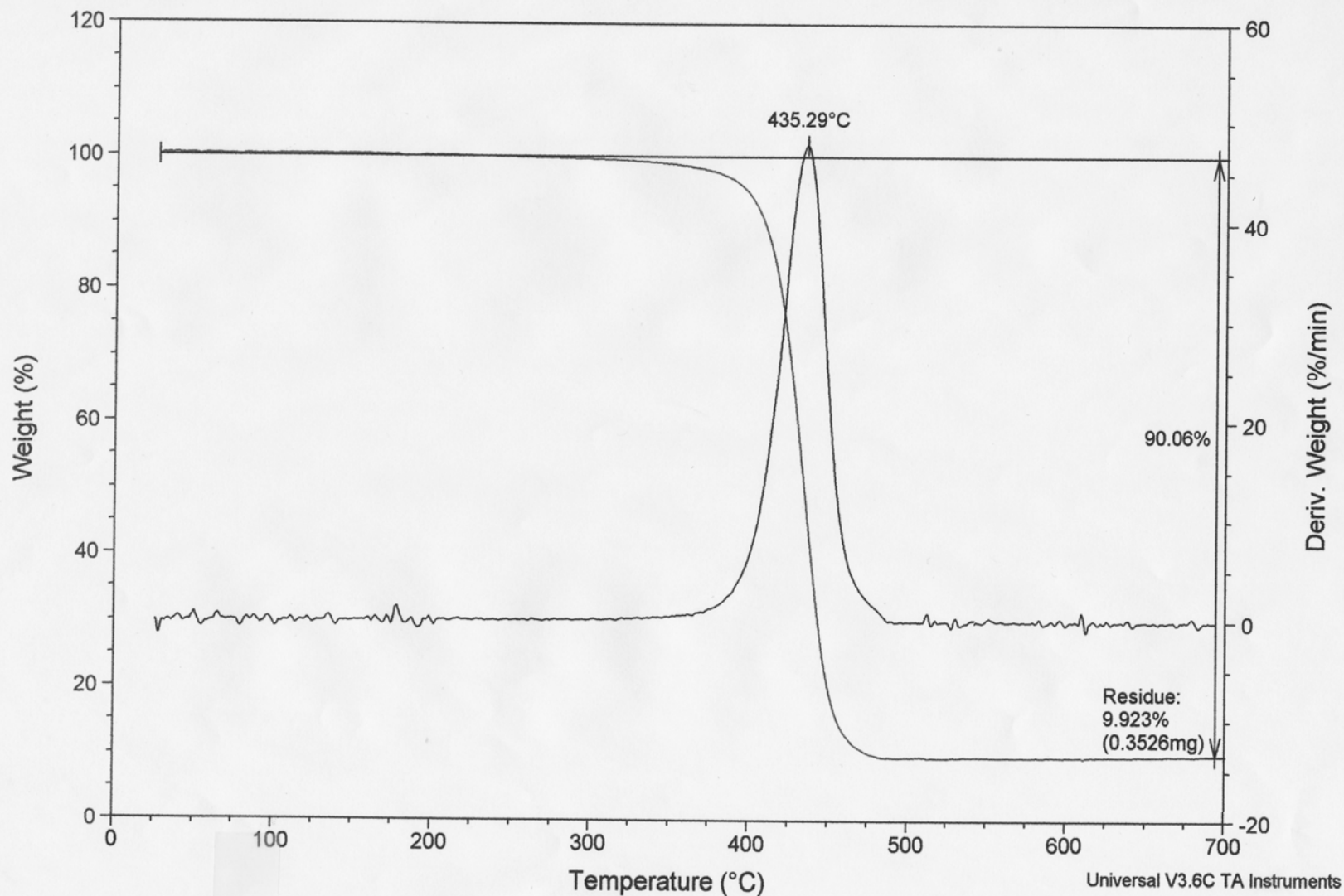


Figure S6 – TGA data for PS₁₂₅S-Au NP (nanoparticles freeze-dried from benzene)

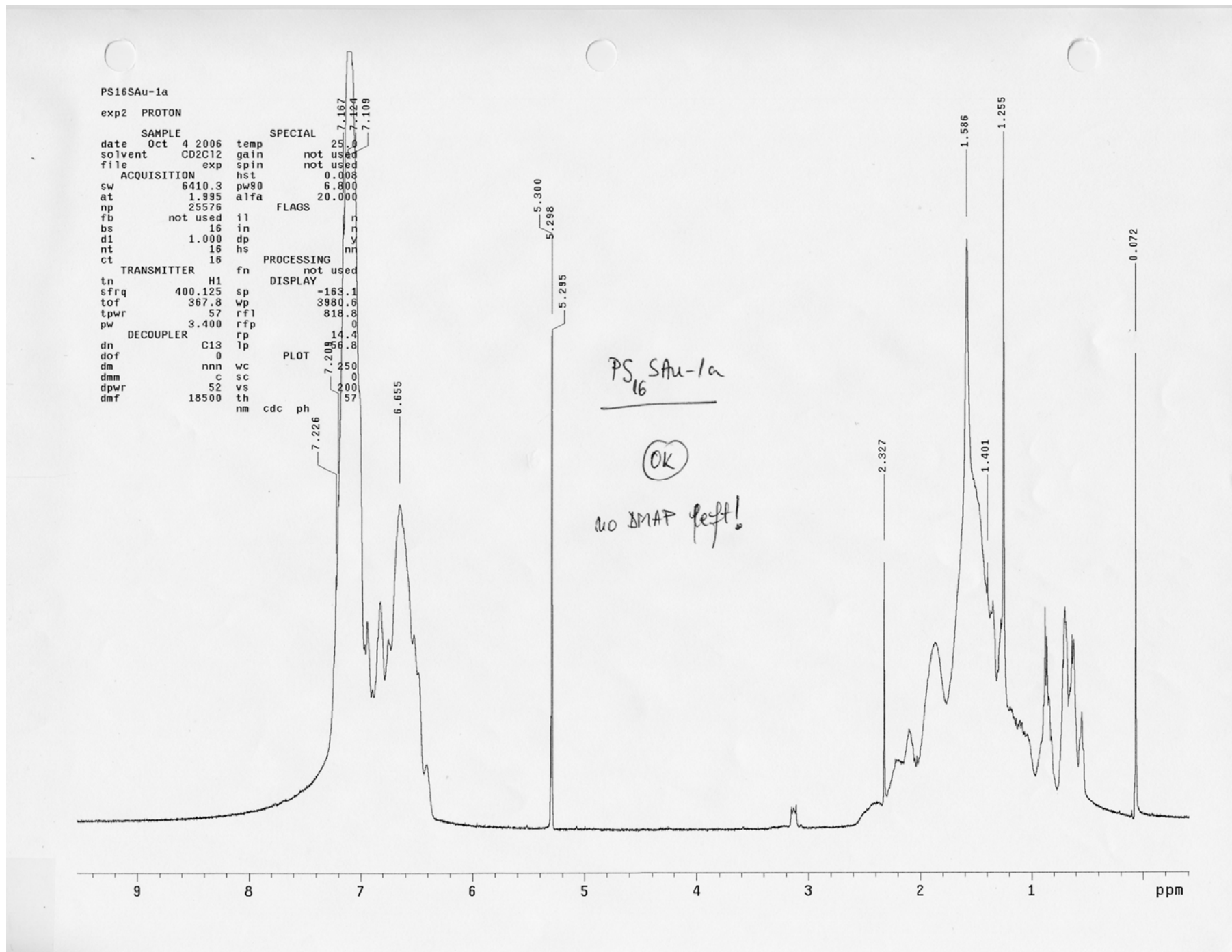


Figure S7 – ¹H NMR spectrum of PS₁₆S-Au NP in CD₂Cl₂ (nanoparticles freeze-dried from benzene)

Sample: PS16SAu1
Size: 2.9710 mg
Method: Ramp
Comment: Simona Sample (Lennox)

TGA

File: C:\...TGA\Lennox\Simona\PS16SAu1.001
Operator: Petr Fiuřasek
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Instrument: TGA Q500 V4.10 Build 157

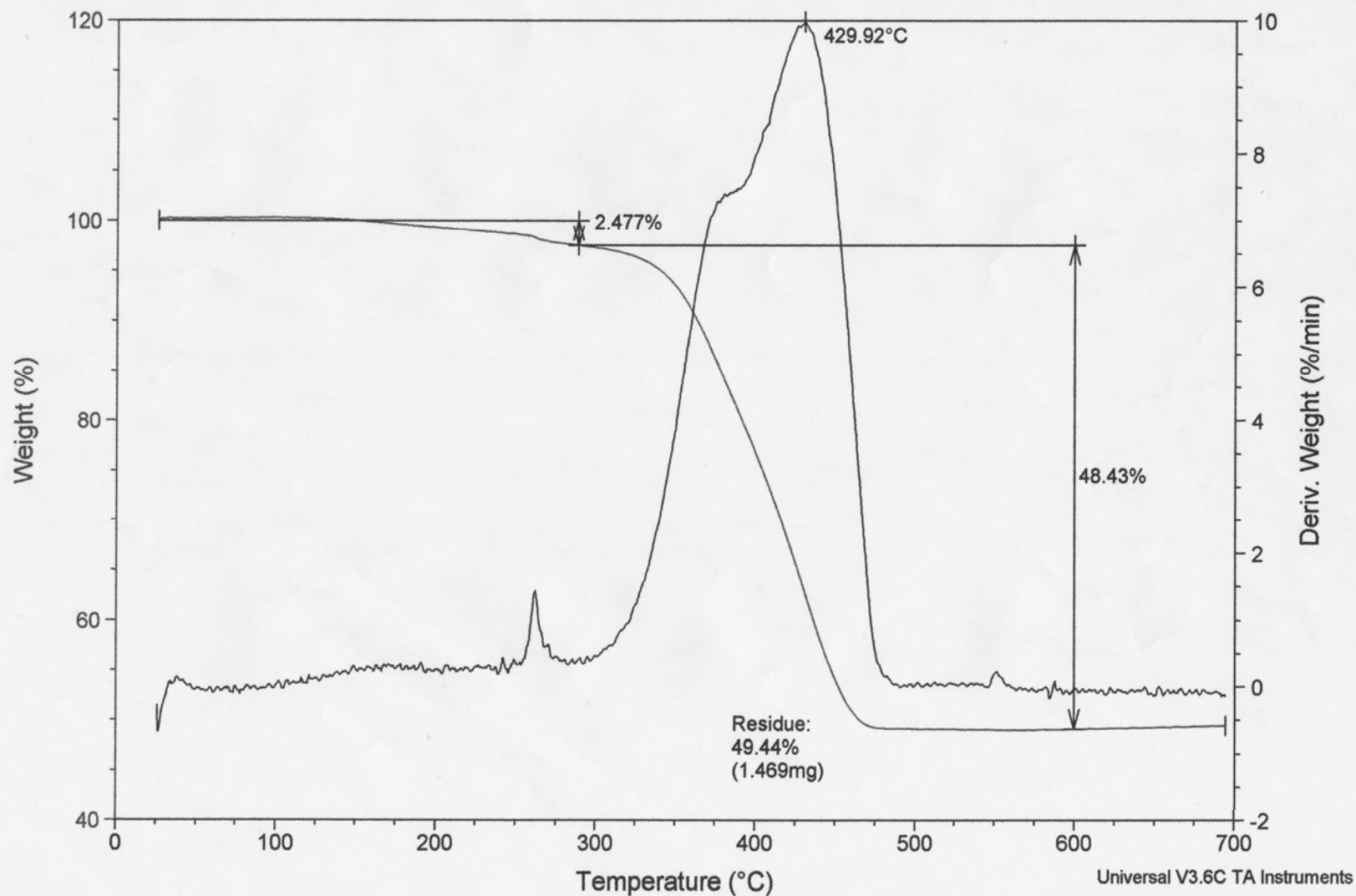


Figure S8 – TGA data for PS₁₆S-Au NP (nanoparticles freeze-dried from benzene)