Gold Monolayer-Protected Clusters by Capillary LC-MS

ACE®
Ultra-inert
UHPLC & HPLC Columns

Application #**AN4770**

Conditions

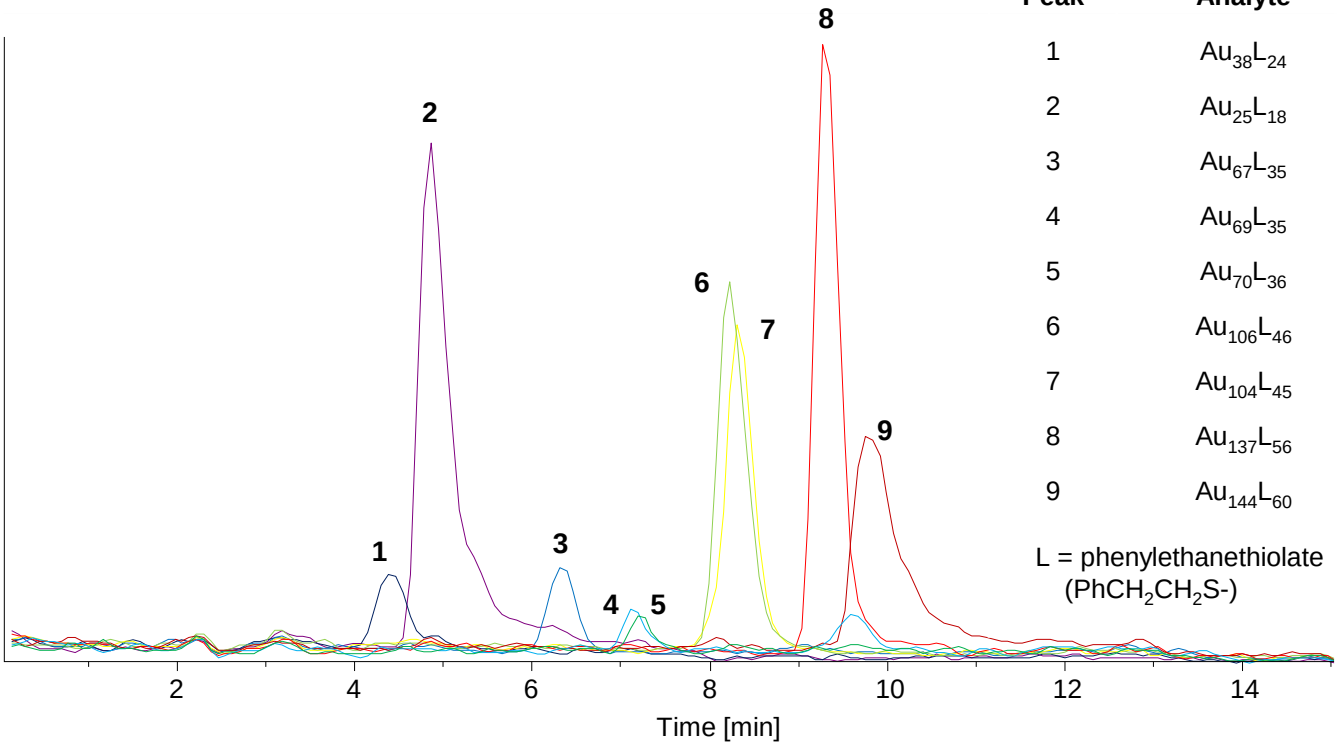
Column:	ACE 3 Phenyl-300
Dimensions:	150 x 0.5 mm
Part Number:	ACE-215-15005
Mobile Phase:	A: 0.1mM triethylammonium acetate in methanol B: 0.1mM triethylammonium acetate in dichloromethane

Time (mins)	%B
0	50
10	100
12	100
15	50

Flow Rate:	15 µL/min
Injection:	2.5 µL
Detection:	Bruker micrOTOF MS MicroESI in positive ion mode Electrospray emitter potential: +4500V Nebulizer pressure: 1.5 bar Sheath gas: 3.0 l/min
Sample:	Synthetic mixture of gold[-thiolate] clusters

Gold monolayer-protected clusters are of growing interest due to their electrical properties and potential applications for drug delivery and sensors in the biosciences

Nanoparticle analysis of gold[-thiolate] clusters comprising 25 to 144 gold atoms and 18 to 60 thiolate ligands ($PhCH_2CH_2S$-) by capillary-flow non-aqueous reversed-phase HPLC



Peak	Analyte
1	$Au_{38}L_{24}$
2	$Au_{25}L_{18}$
3	$Au_{67}L_{35}$
4	$Au_{69}L_{35}$
5	$Au_{70}L_{36}$
6	$Au_{106}L_{46}$
7	$Au_{104}L_{45}$
8	$Au_{137}L_{56}$
9	$Au_{144}L_{60}$

L = phenylethanethiolate ($PhCH_2CH_2S$-)

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