Optimization of Phase Transfer Methods of Gold Nanoprisms

ISSE 46th International Spring Seminar on Electronics Technology

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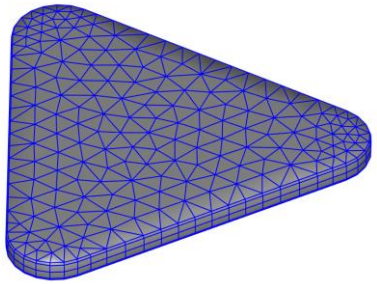
Poster number: G57



Nanoprism

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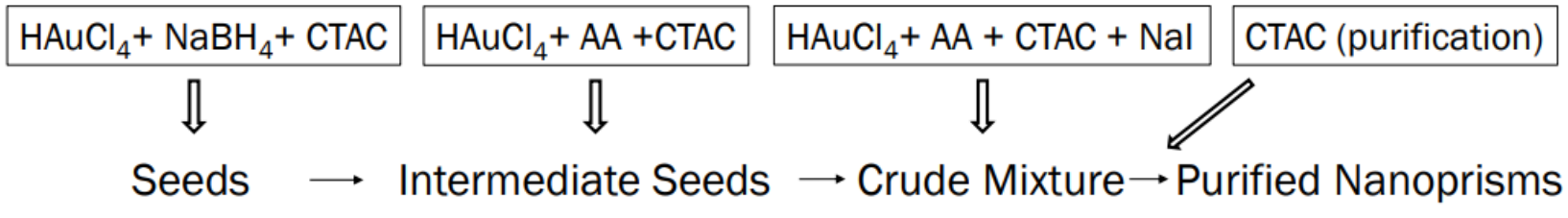
BUDAPEST UNIVERSITY OF TECHNOLOGY AND ECONOMICS
DEPARTMENT OF ELECTRONICS TECHNOLOGY

Problem and Methods

Motivation

The aim was to find a reproducible phase transfer for gold nanoprisms

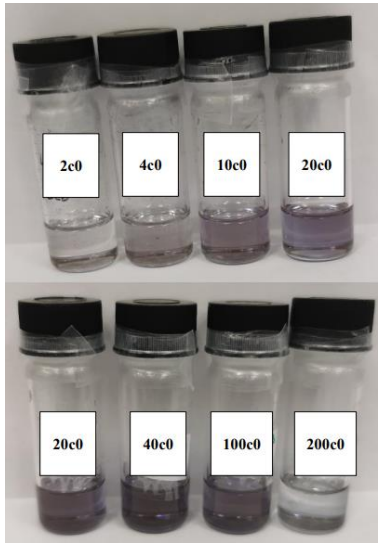
Synthesis



Phase transfers

3 different protocols tested:

- dodecanethiol in toluene
- dodecanethiol and toluene separately
- thiol terminated polystyrene



Phase transfer with thiol terminated polystyrene

Measurements

- optical spectrophotometry
- scanning electron microscopy (SEM)

BMEETT

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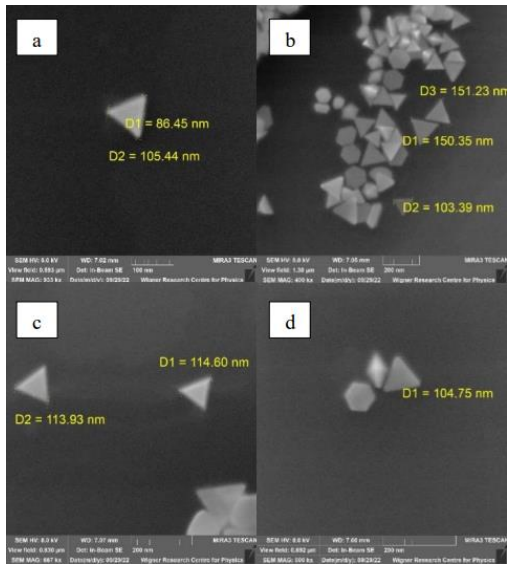
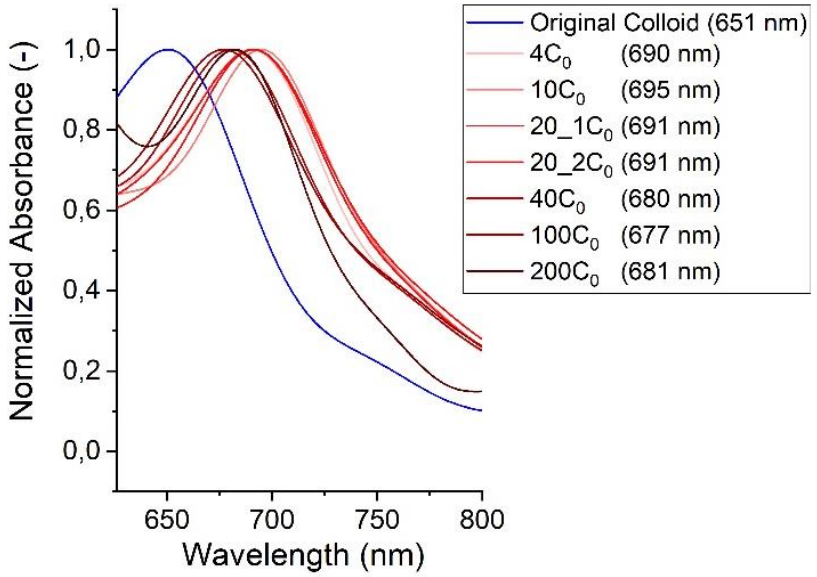
Results

Synthesis



Vol. of seeds (µL)	LSPR peak wavelength (nm)	
	Literature	Own sample
100	644	645
80	649	675
40	668	682
30	No Data	699

Phase transfer



Conclusion

- gold nanoprisms with various size were synthetized
- phase transfer with thiol terminated polystyrene was successful, red-shift occurs