ELECTRONIC SUPPLEMENTARY INFORMATION

Direct surface-enhanced Raman scattering (SERS) spectroscopy of nucleic acids: from fundamental studies to real-life applications

Eduardo Garcia-Rico,[1,2] Ramon A. Alvarez-Puebla[3,4] and Luca Guerrini.[3]**

[1] Fundacion de Investigacion HM Hospitales, San Bernardo 101, 28015 Madrid (Spain).

[2] School of Medicine, San Pablo CEU, Calle Julián Romea, 18, 28003 Madrid (Spain).

[3] Universitat Rovira i Virgili, Department of Physical and Inorganic Chemistry - EMaS, Carrer de Marcel•lí Domingo s/n, 43007 Tarragona (Spain).

[4] ICREA, Passeig Lluís Companys 23, 08010 Barcelona (Spain).

Email:

luca.guerrini@urv.cat

ramon.alvarez@urv.cat

Table S1. Summary of the reviewed articles listed according to the silver colloids exploited as SERS substrates: citrate-reduced silver nanoparticles (AgCT), hydroxylamine-reduced silver nanoparticles (AgHX), iodide-modified citrate silver nanoparticles (AgI), and spermine-coated silver nanoparticles (AgSp). The (potential) aggregating agent employed, as well as the description of the targeted nucleic acids and major findings, were also reported.

COLLOIDS	AGGR. AGENT	NUCLEIC ACIDS	MAJOR FINDINGS	REF
AgCT		• 24-nt tetra-end-linked ssDNA	• discrimination of G-quadruplex structures	1
AgHX	$MgSO_4$	• 23-nt and 25-nt ssDNA	• detection of single-base mismatch	2
		• 12-nt polyAC	• quantification of base composition	3
		• 30-bp dsDNA	• discrimination ss. vs dsDNA	3
		• 27-nt ssDNA	• detection of chemically modified nucleobases	4
AgI	$MgSO_4$	• 12-nt polyAC	• quantification of base composition	5
		• 55-bp dsDNA	• discrimination ss. vs dsDNA	5
		• < 9-nt polyCT	• identification of i-motif	6
Highly concentrated AgCT	/	• genomic dsDNA	• detection of dehydration-induced conformational changes	7
		• genomic dsDNA	• detection of ROS-induced lesions	8
AgSp	/	• 21-bp dsDNA	• quantification of hybridization events	9
		• 21-nt ssDNA, 21-bp dsDNA	• detection of chemically modified nucleobases	10
		• 21-nt ssRNA, 21-bp dsRNA	• discrimination ss. vs dsRNA; detection of chemically modified nucleobases	11
		• 21-nt ssRNA, 21-bp dsRNA, 42-nt ssRNA	• discrimination of RNA conformations	11
		• genomic dsDNA	• interaction with exogenous agents	12
		• 21-nt ssDNA, 21-bp dsDNA, genomic dsDNA	• quantification of base composition	13
		• 141-nt ssDNA	• discrimination of point mutations	14
		• ca. 200-bp dsDNA	• discrimination of strands	15

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