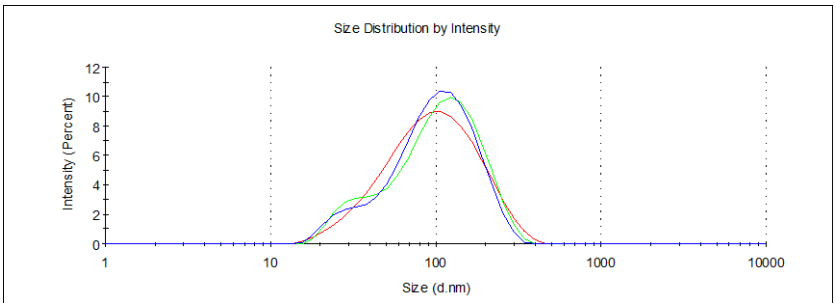
Annex

Annex A: Yields and stability of MNPs functionalized with strategies A, B and C using PEG molecules with two different MW: 750 and 5000 Da.

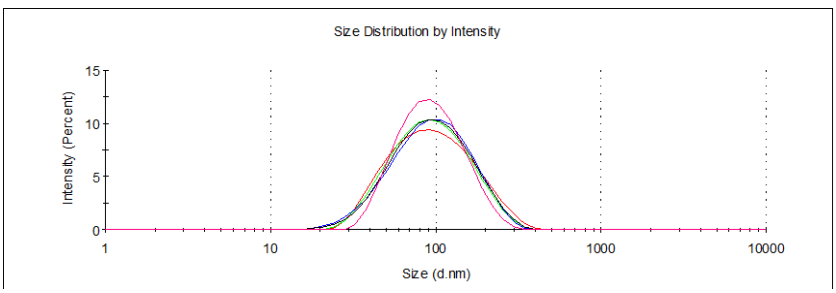
Strategy	#	First functionalization		Second functionalization	
		Yield	**Stability**	**Yield**	**Stability**
A	**1**	**PEG 750**		**NTA-Cu^{2+}**	
		84%	-	92%	-
	2	**PEG 5000**		**NTA-Cu^{2+}**	
		94%	-	88%	-
B	**1**	**NTA-Cu^{2+}**		**PEG 750**	
		98%	-	81%	-
	2	**NTA-Cu^{2+}**		**PEG 5000**	
		98%	-	88%	+
Strategy	**#**	**Yield**		**Stability**	
C	**1**	**PEG 750 + NTA-Cu^{2+} one pot**			
		83%		-	
	2	**mPEG 5000 + NTA-Cu^{2+} one pot**			
		77%		+	

-: No apparent aggregation, easy recovering. +: No apparent aggregation, difficult recovering.

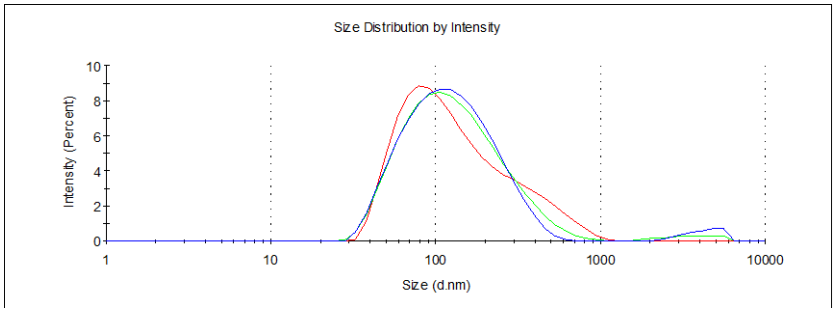
Annex B: DLS data obtained from Zetasizer instrument, the size was calculated by intensity graphs.



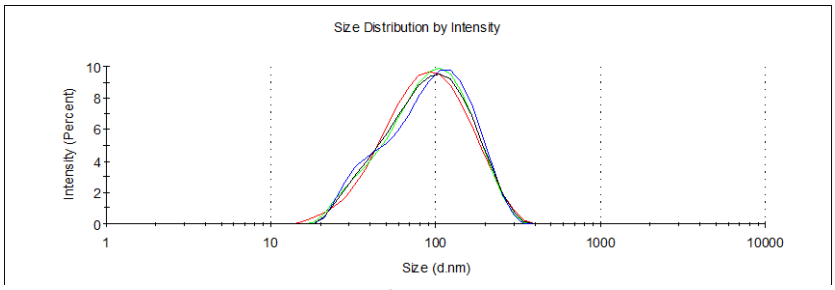
Water-stable MNPs (batch CCH04). Three measurements



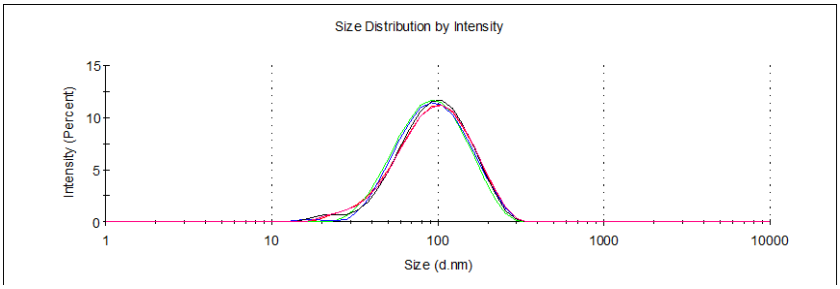
MNPs@PEG750. Five measurements



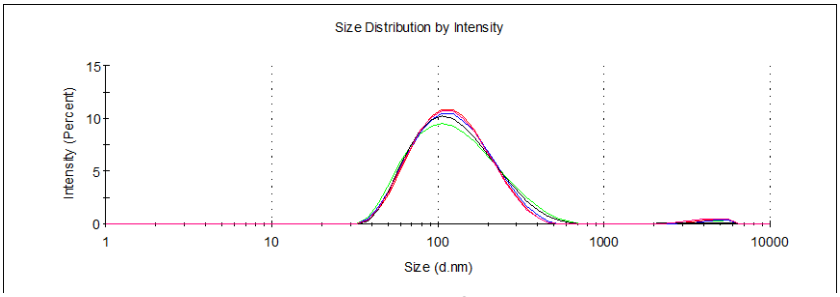
MNPs@PEG5000. Three measurements



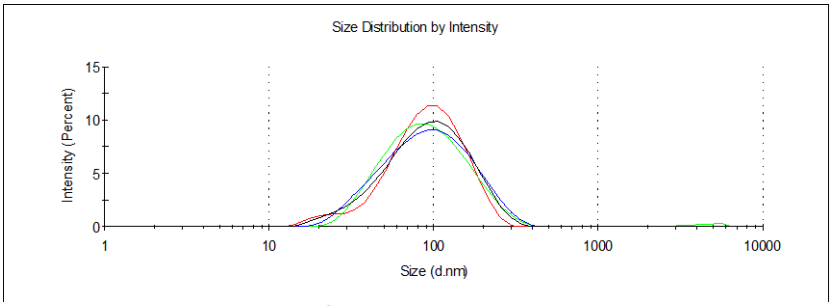
MNPs@NTA-Cu^{2+}. Four measurements



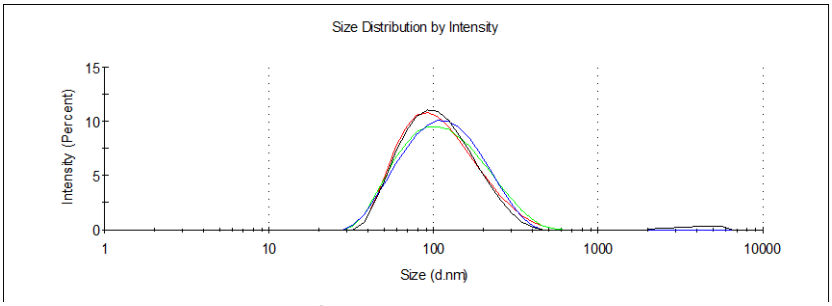
MNPs@PEG750@NTA-Cu^{2+}. Five measurements



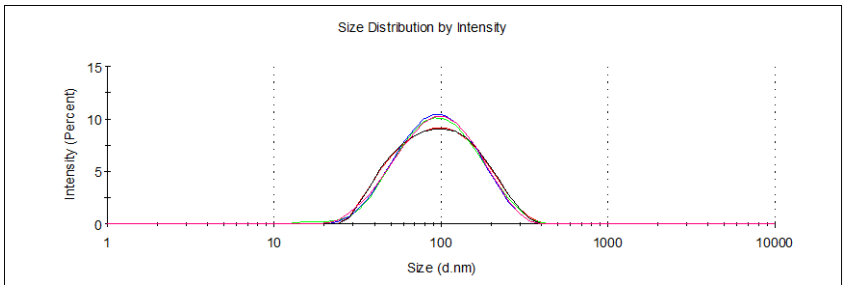
MNPs@PEG5000@NTA-Cu^{2+}. Five measurements



MNPs@NTA-Cu^{2+}@PEG750. Four measurements

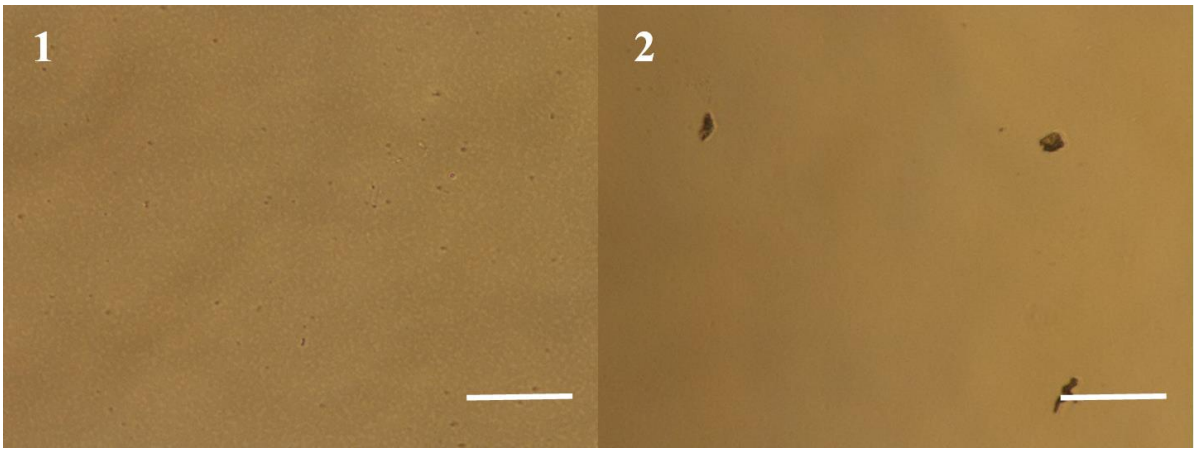


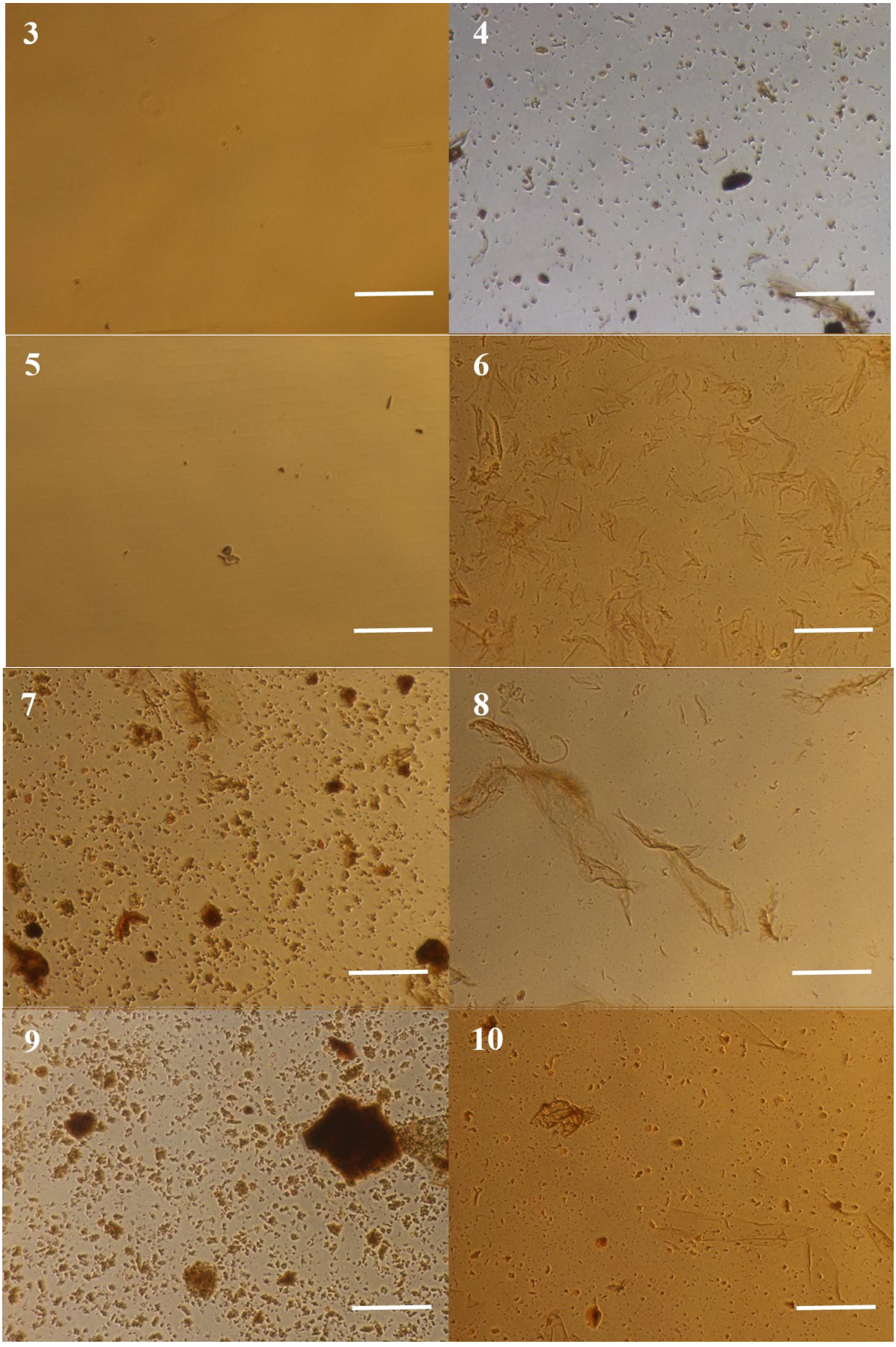
MNPs@NTA-Cu^{2+}@PEG5000. Four measurements



MNPs@(NTA-Cu^{2+} + PEG5000). Five measurements

Annex C: Stability of MNPs functionalized with E-cadherin fragment E1-E2, after 96 hours, in PBS medium. **1:** MNPs@PMAO-TAMRA, 20x. **2:** MNPs@PMAO-TAMRA @PEG750, 10x. **3:** MNPs@PMAO-TAMRA @PEG5000, 10x. **4:** MNPs@PMAO-TAMRA@NTA-Cu^{2+}, 10x. **5:** MNPs P+N750 strategy, 10x. **6:** MNPs P+N5000 strategy, 10x. **7:** MNPs N+P750 strategy, 10x. **8:** MNPs N+P5000 strategy, 10x. **9:** MNPs 1-Pot750 strategy, 10x. **10:** MNPs 1-Pot5000 strategy, 10x. **Scale bar**: 100 µm.

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