

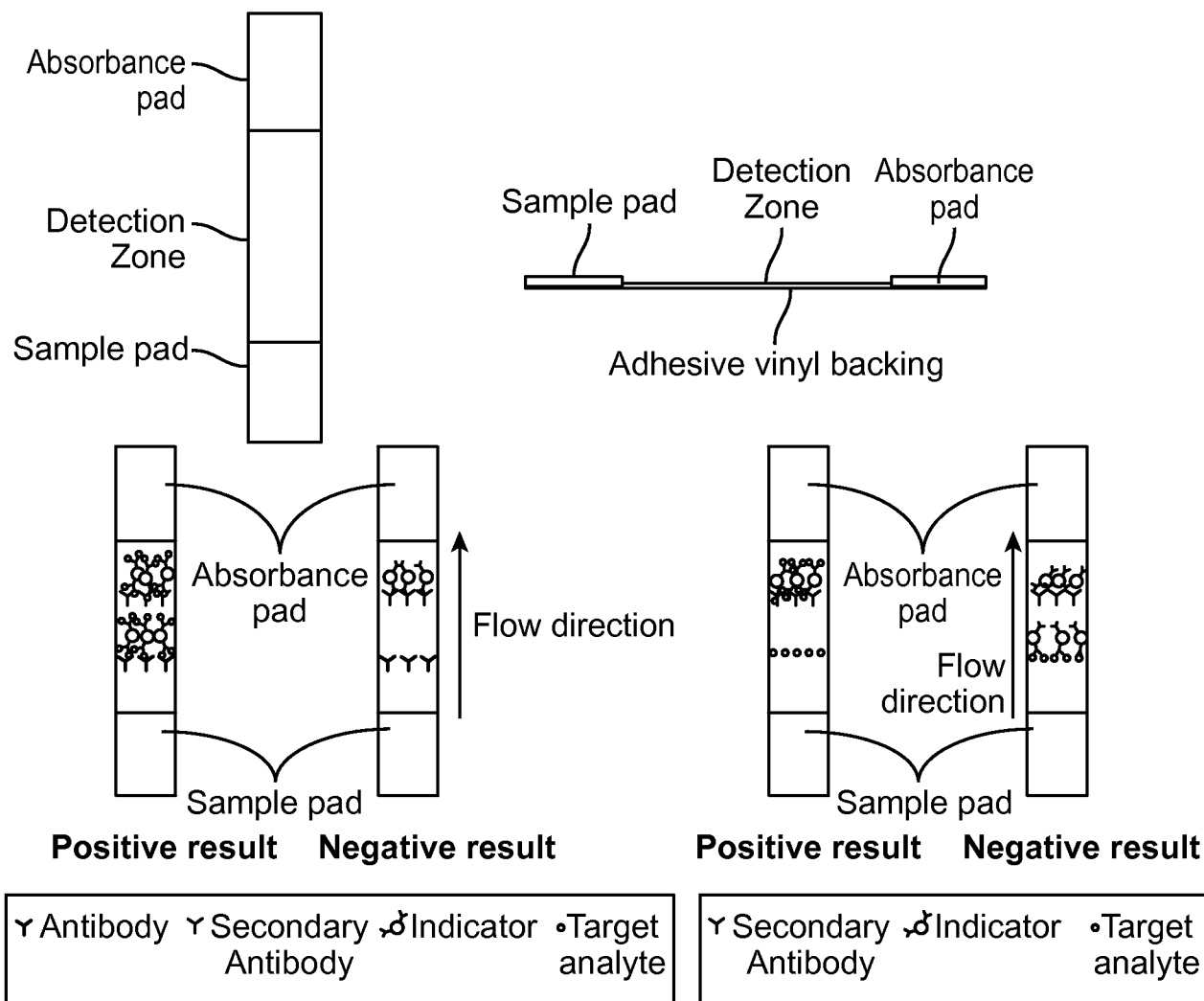


FIG. 1

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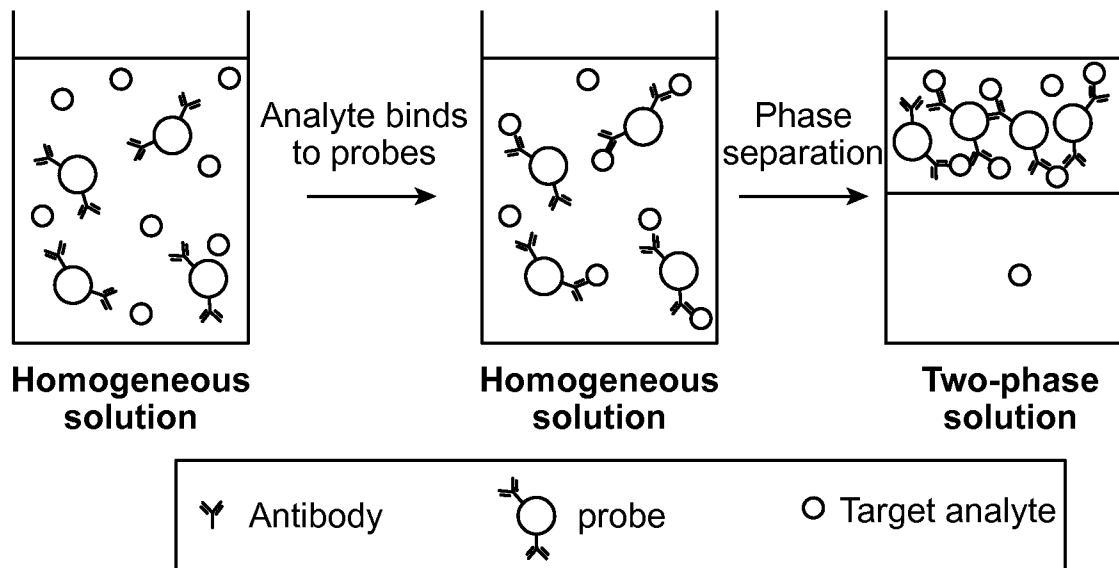


FIG. 2

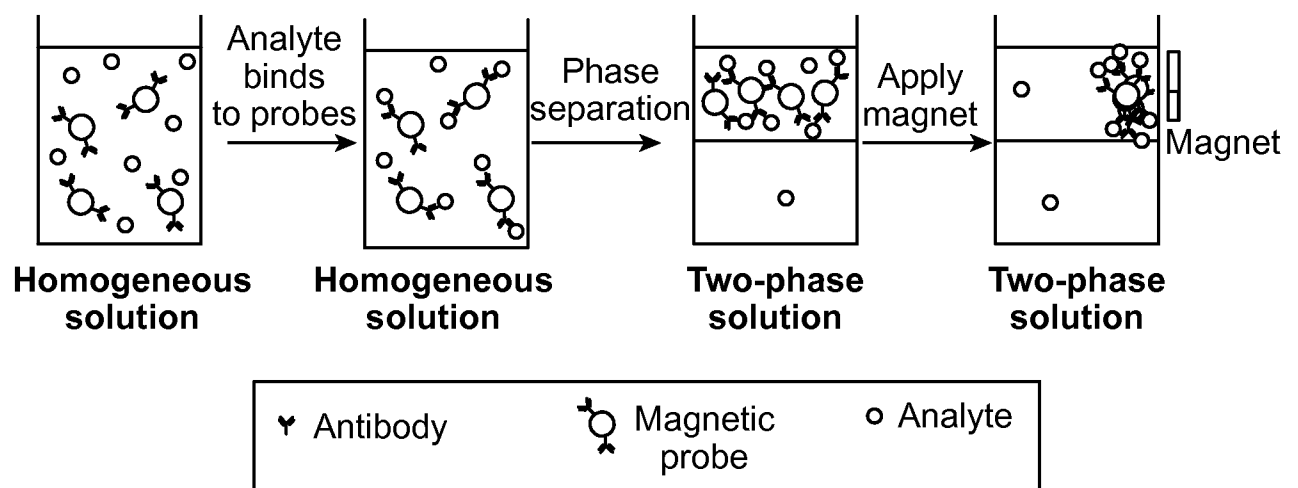


FIG. 3

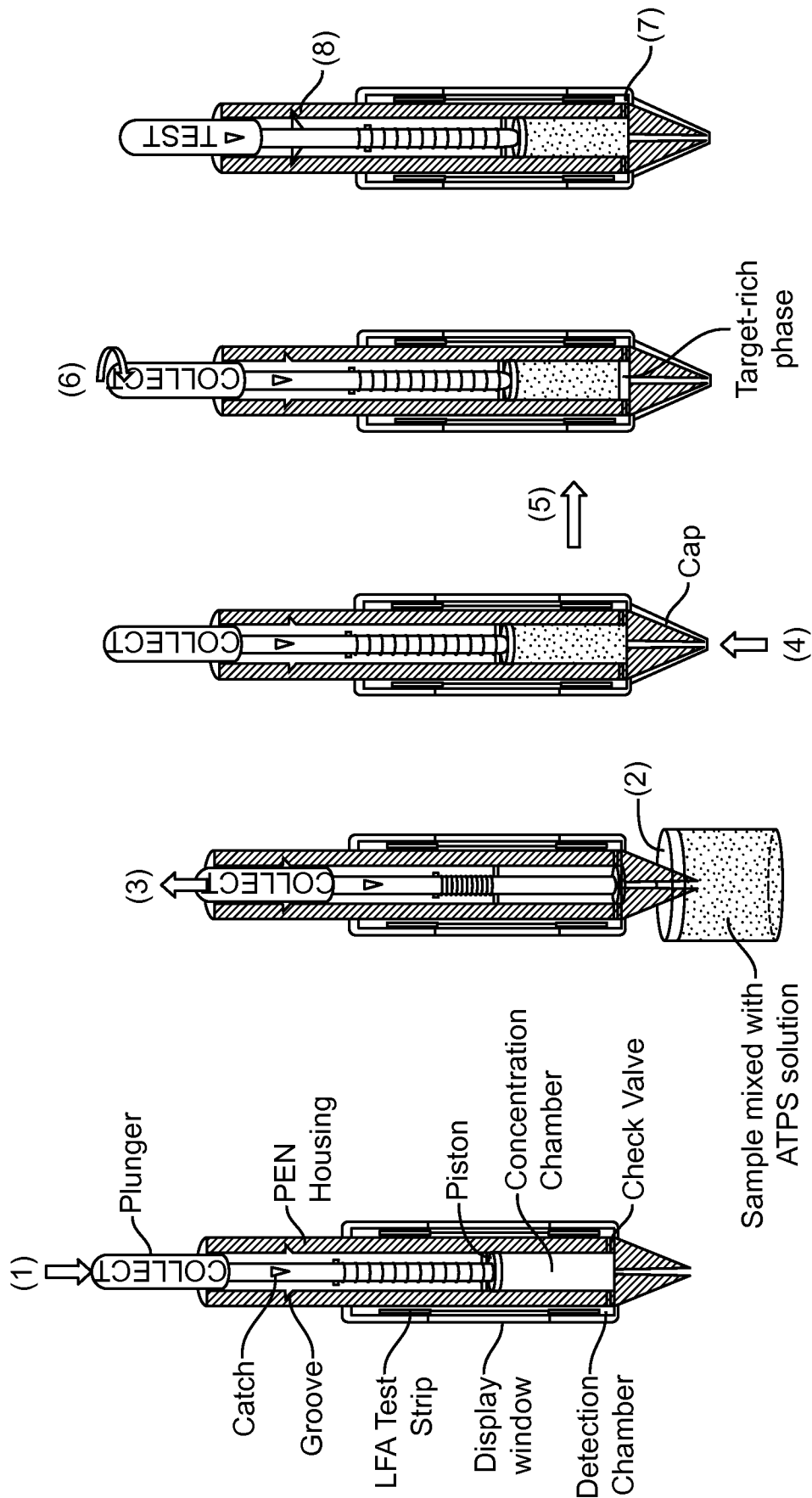


FIG. 4

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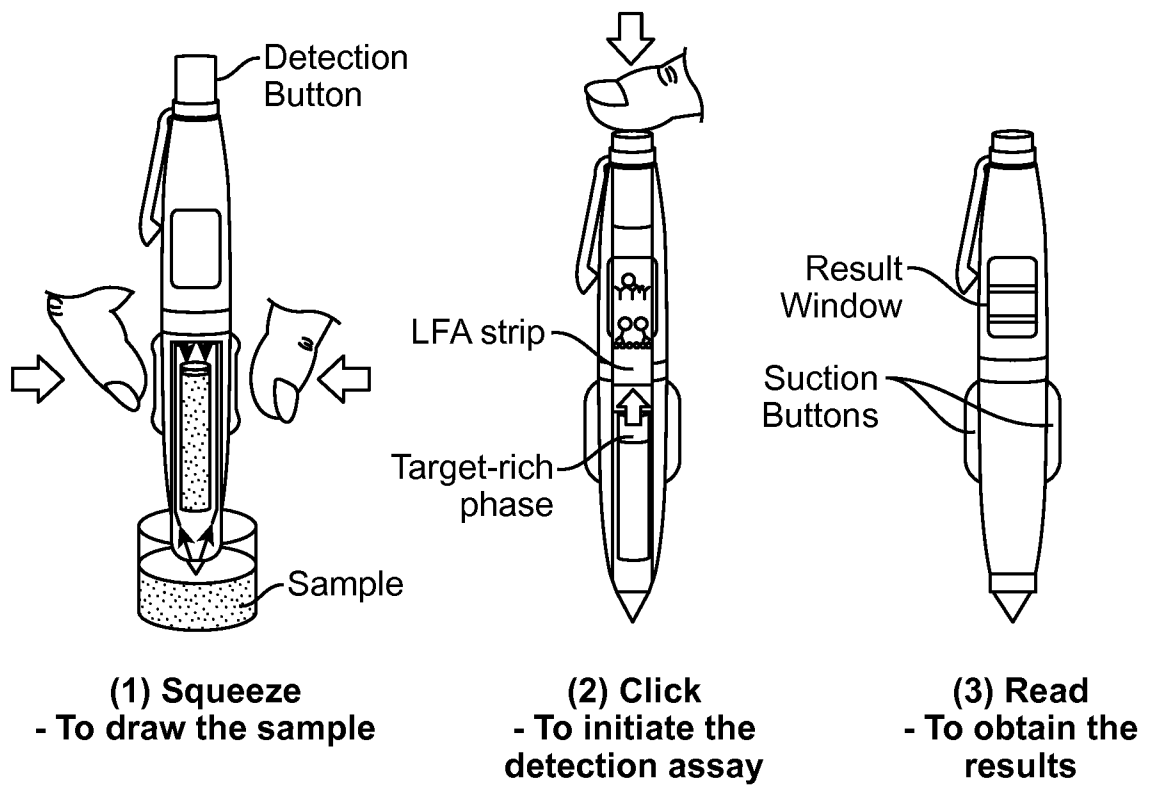


FIG. 5

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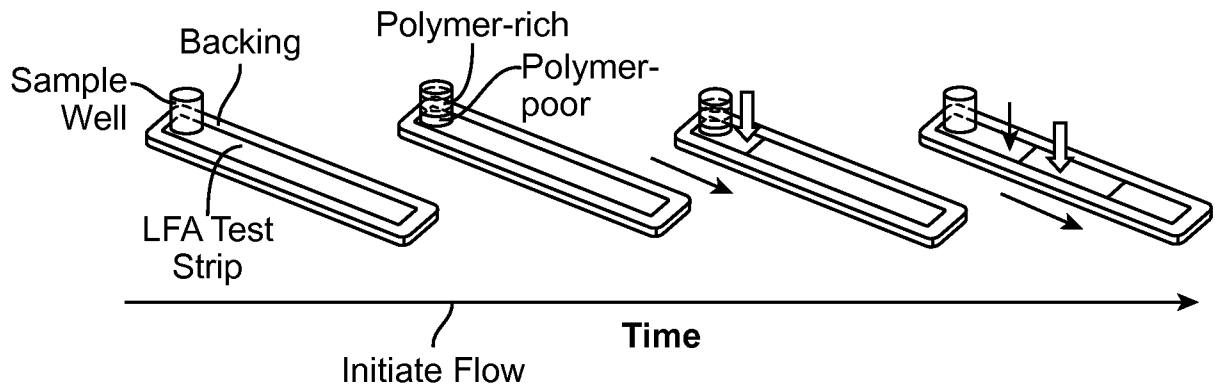


FIG. 6A

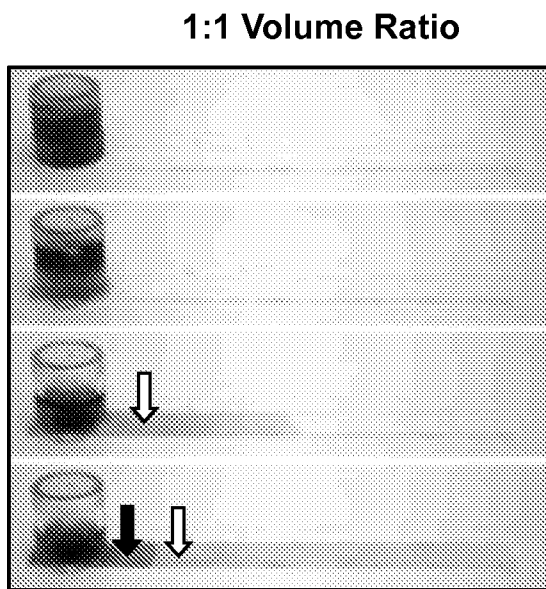


FIG. 6B

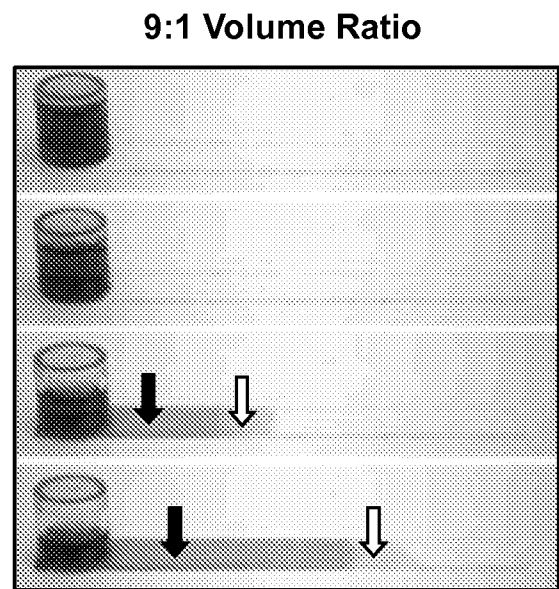


FIG. 6C

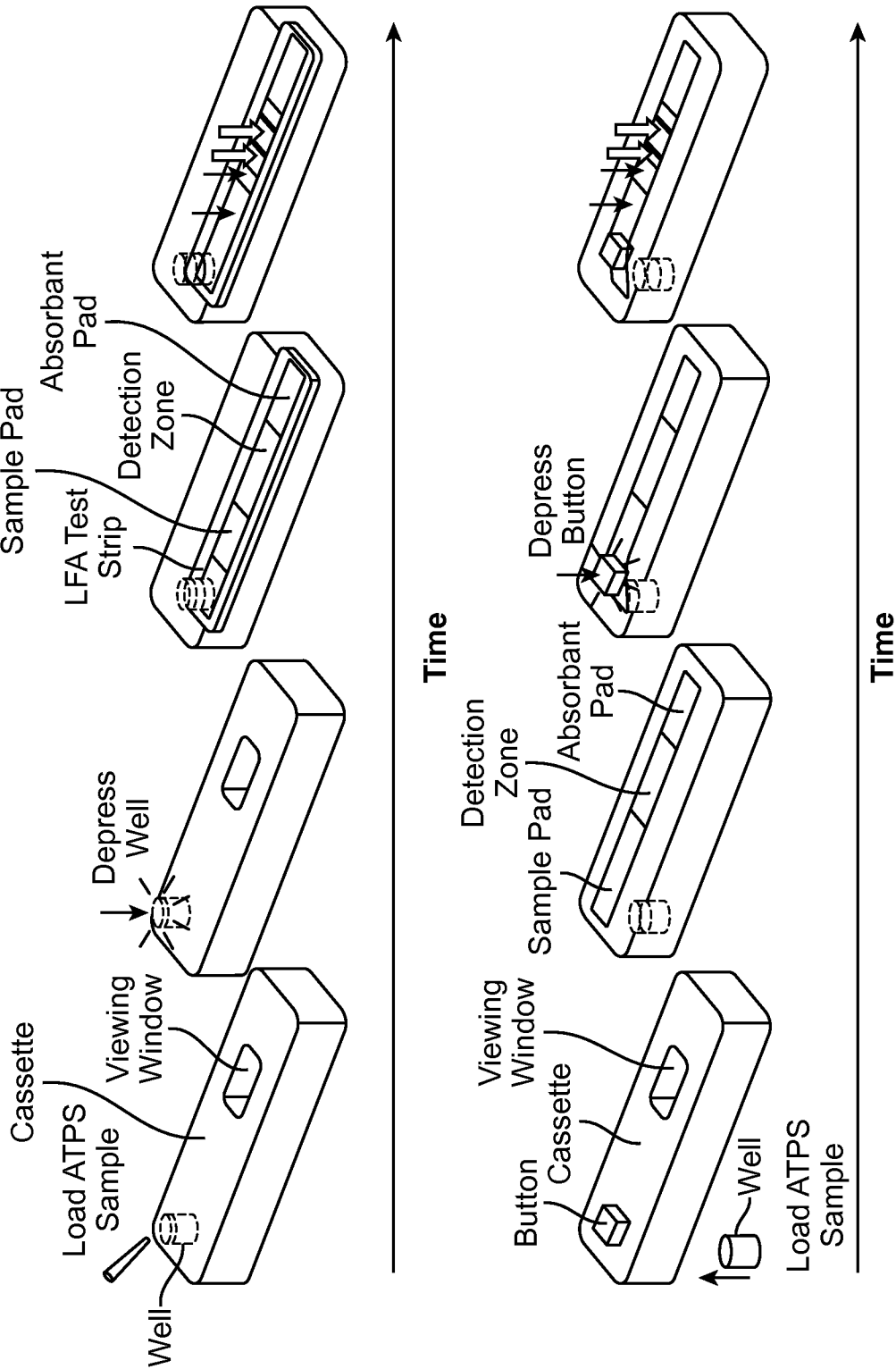
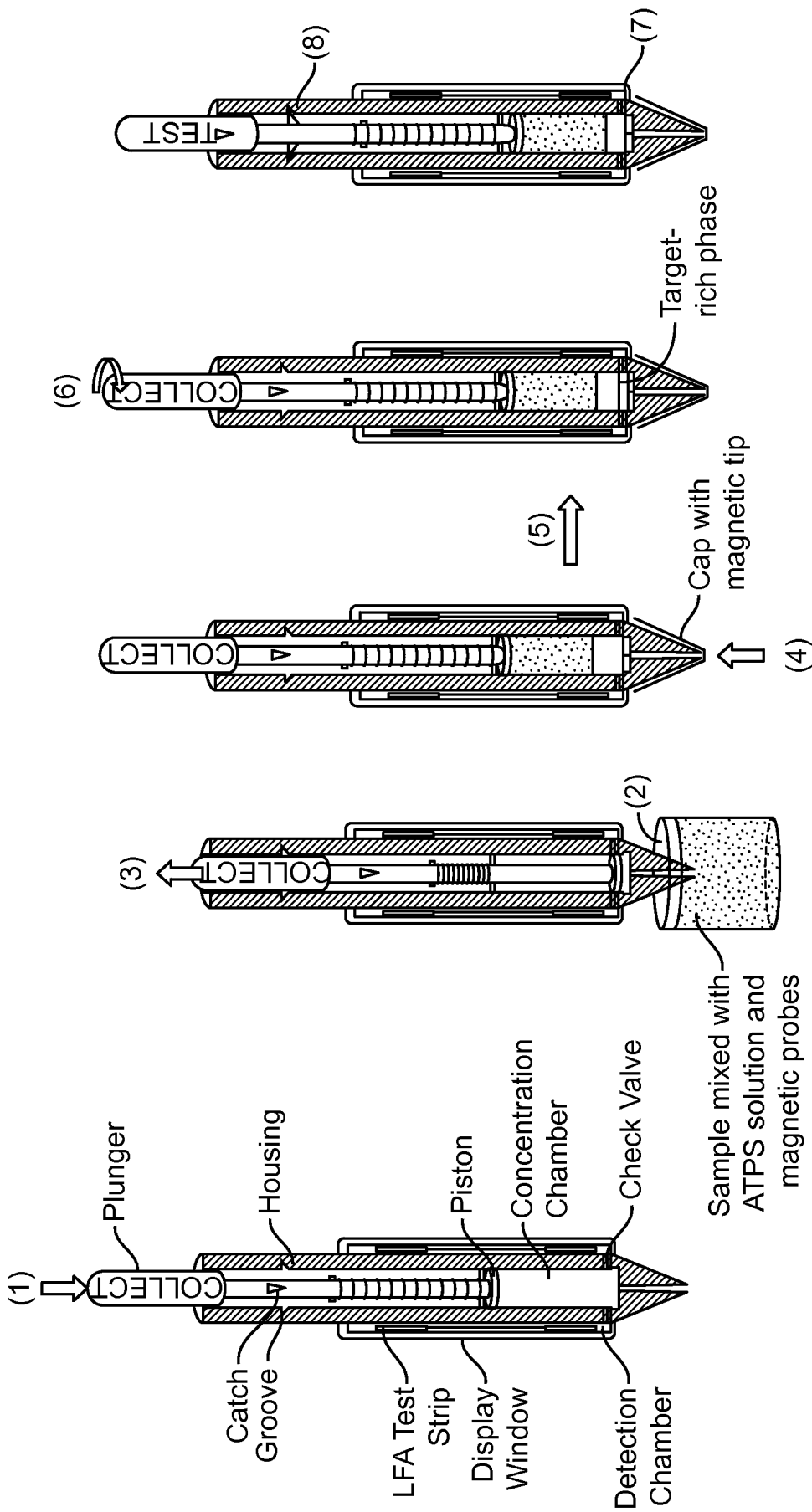


FIG. 6D



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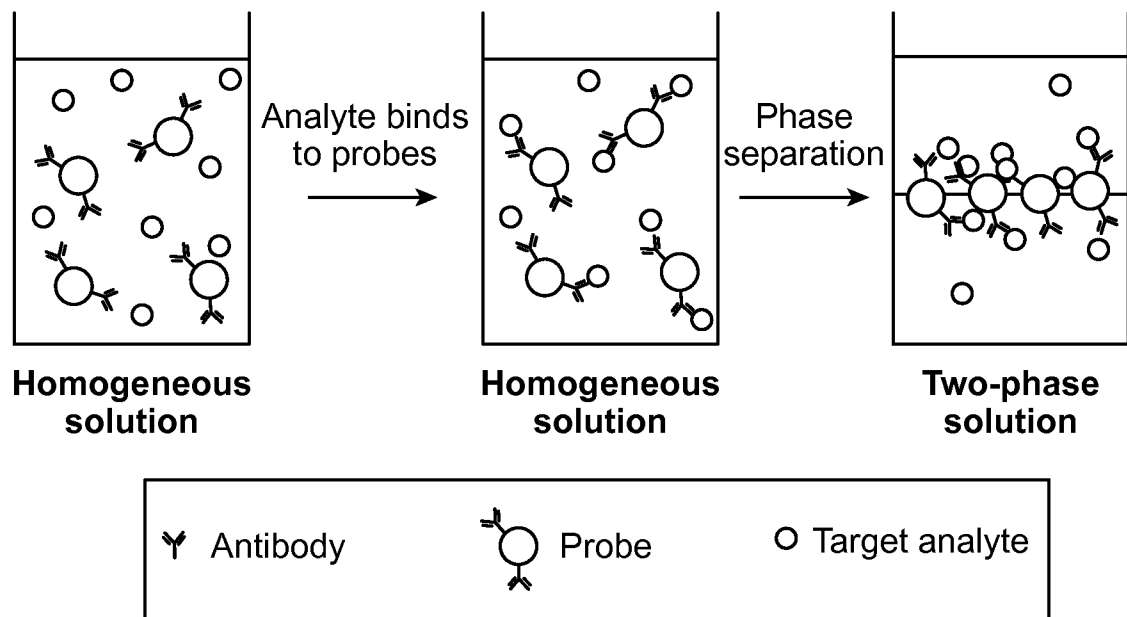


FIG. 8

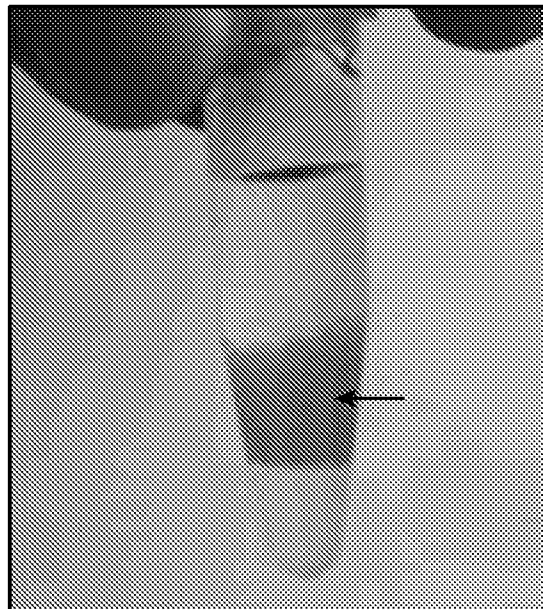


FIG. 9

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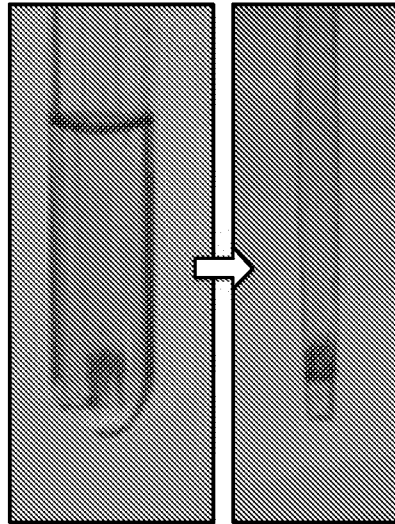


FIG. 10A

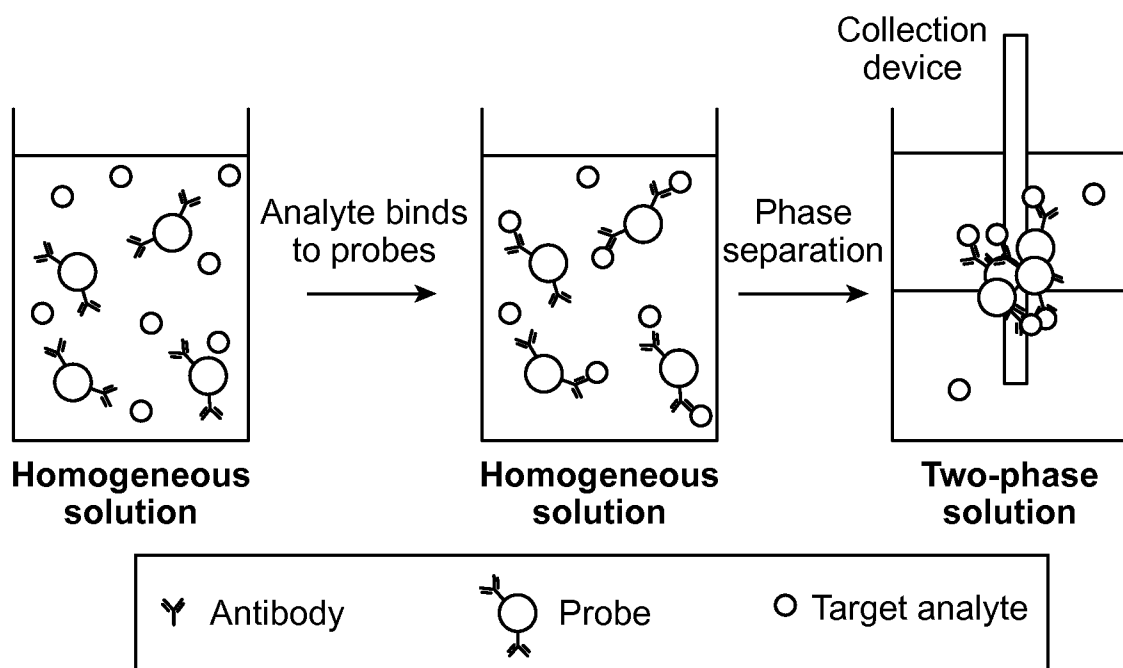


FIG. 10B

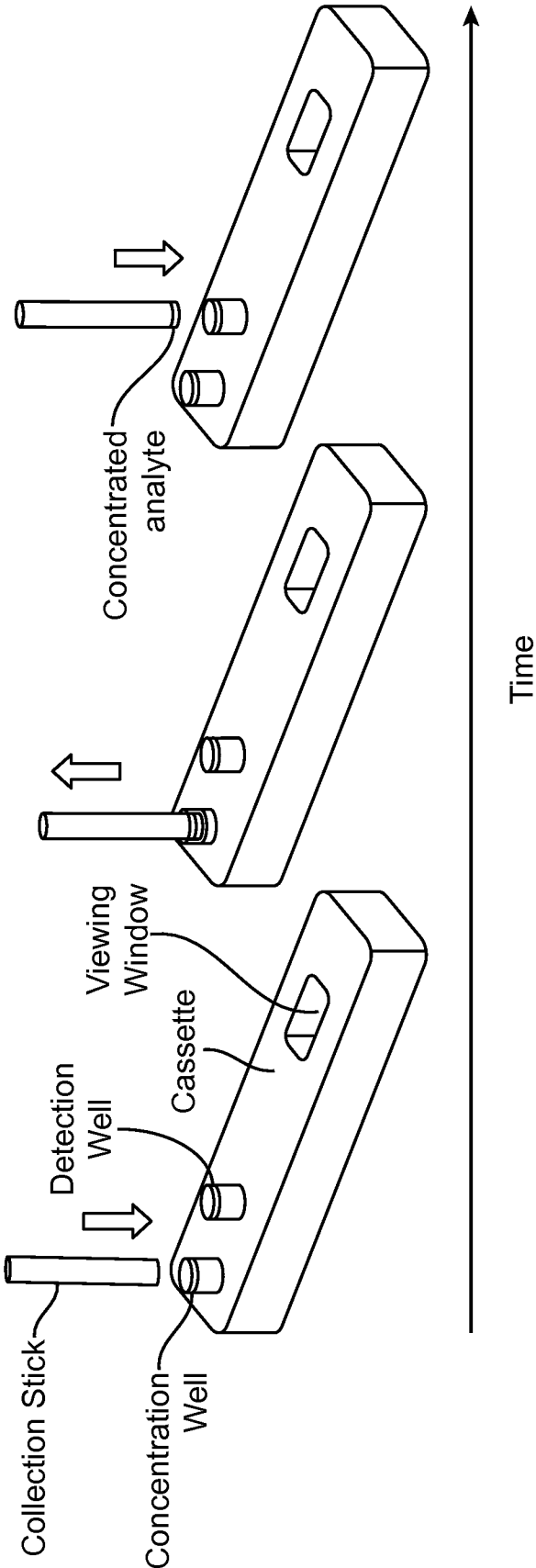


FIG. 11

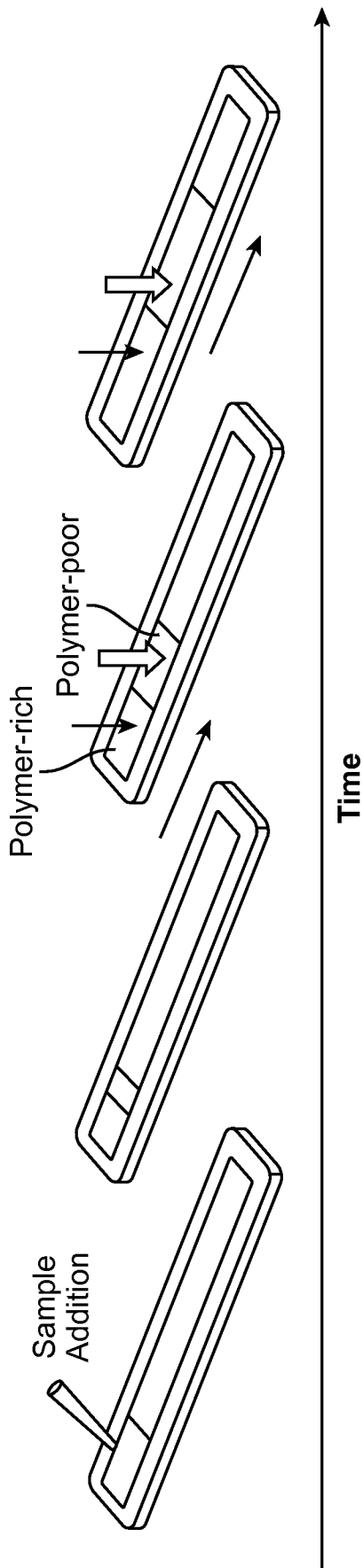


FIG. 12A

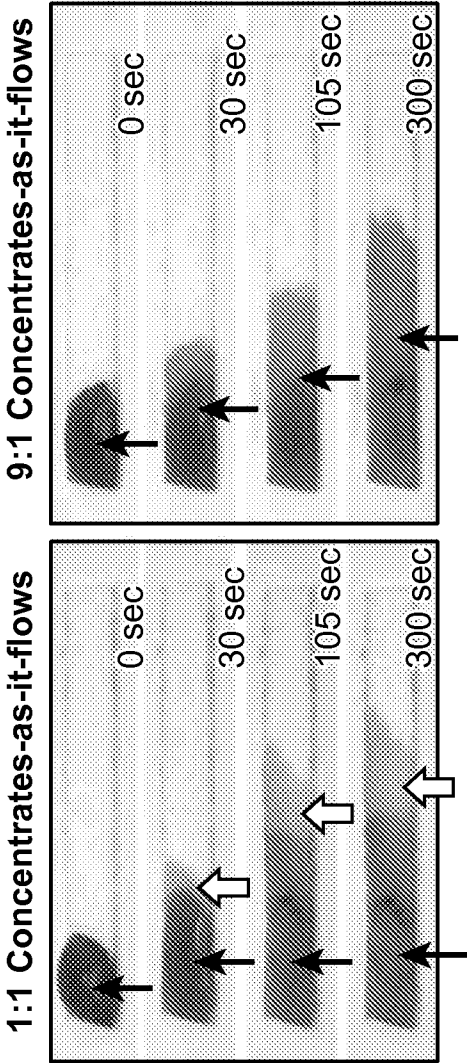


FIG. 12B

FIG. 12C

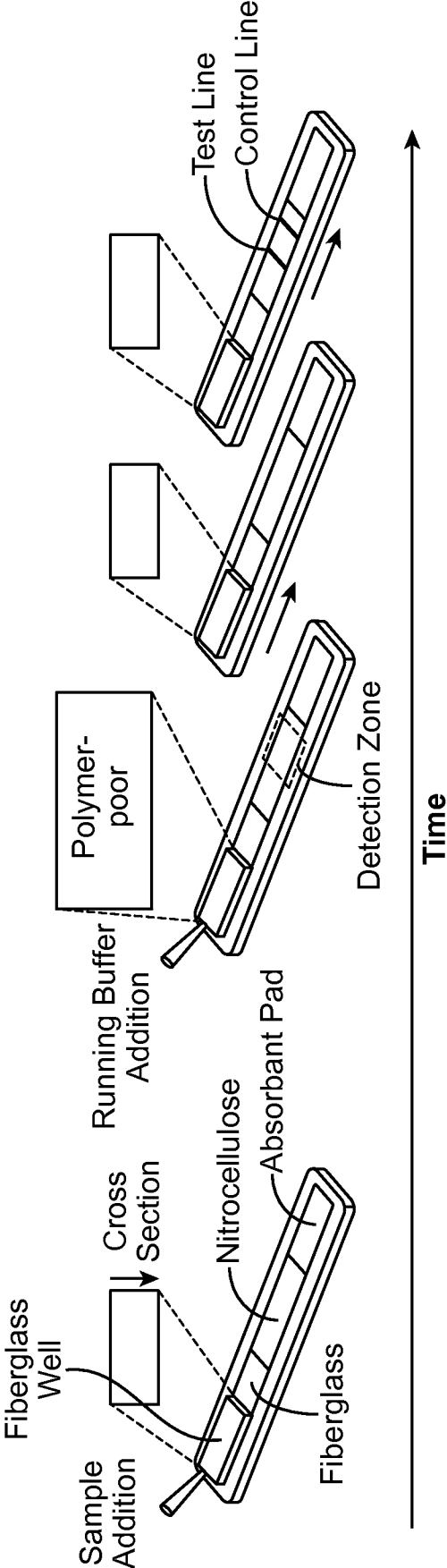


FIG. 13A

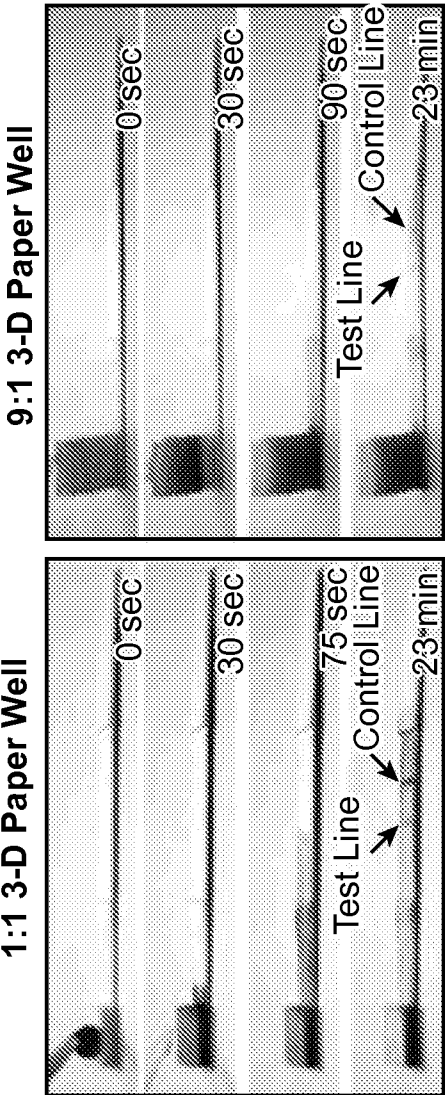


FIG. 13B

FIG. 13C

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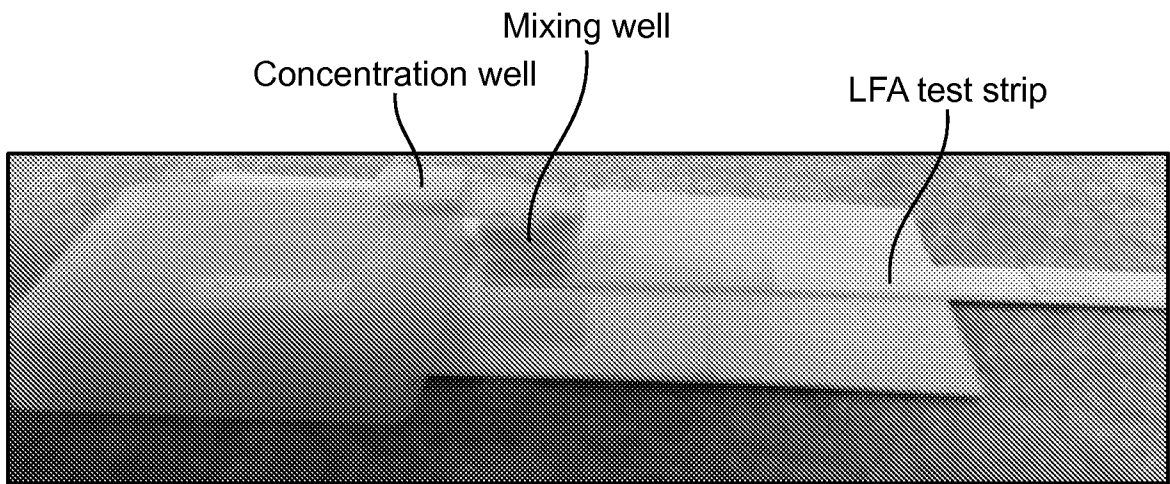


FIG. 14A

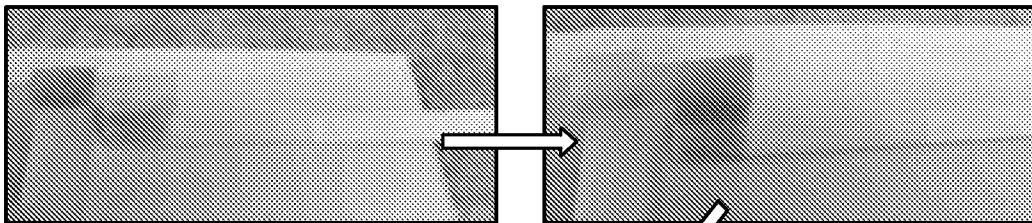


FIG. 14B

FIG. 14C

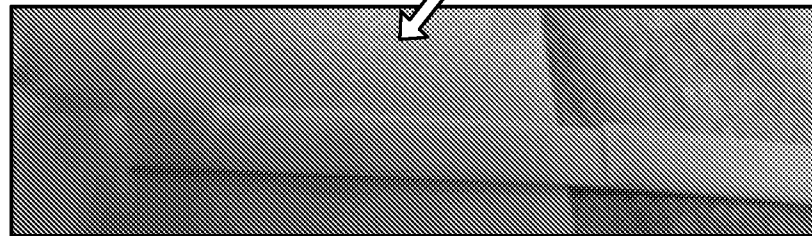


FIG. 14D

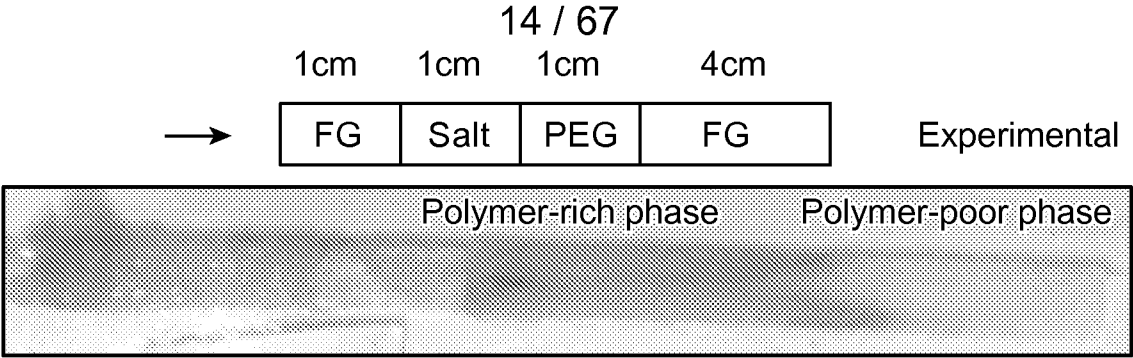


FIG. 15A

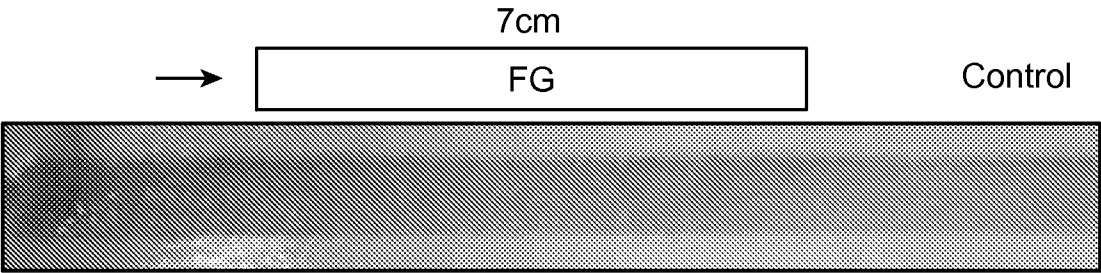


FIG. 15B

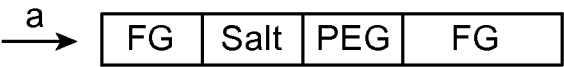


FIG. 16A

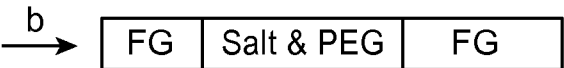


FIG. 16B

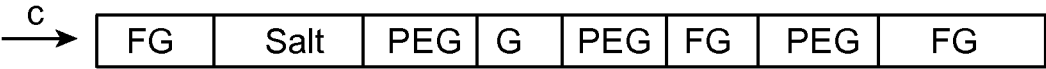


FIG. 16C

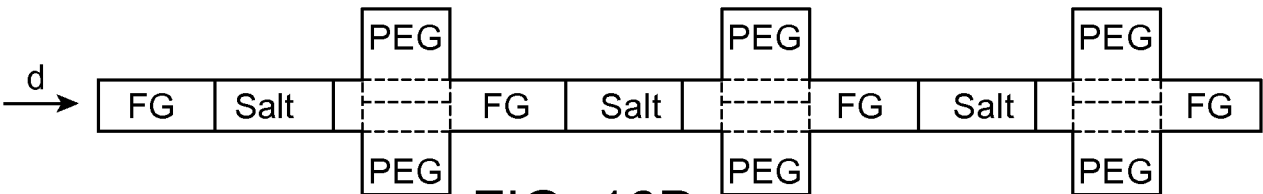


FIG. 16D

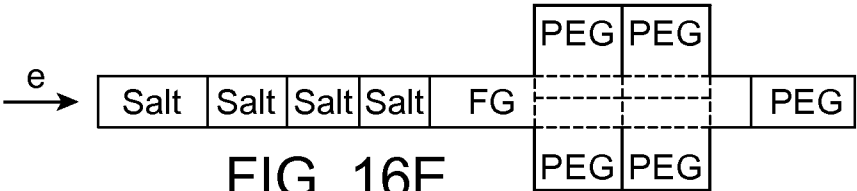


FIG. 16E

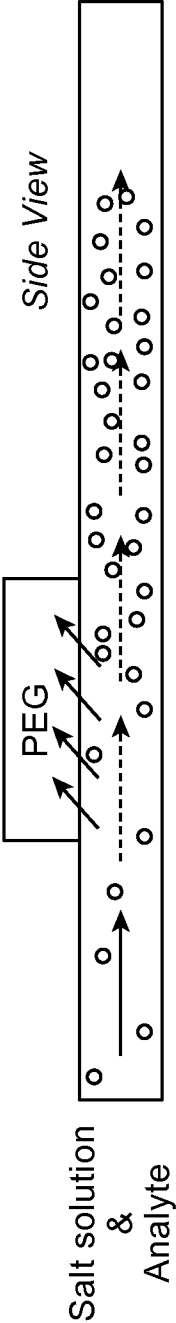


FIG. 17A

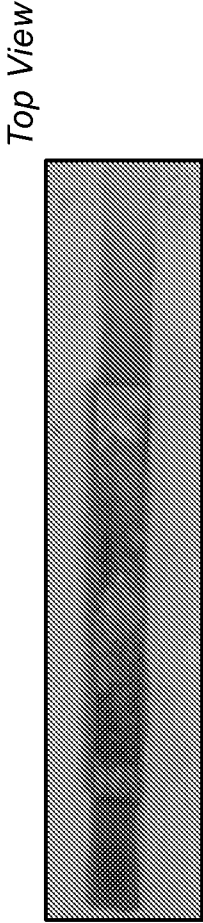


FIG. 17B

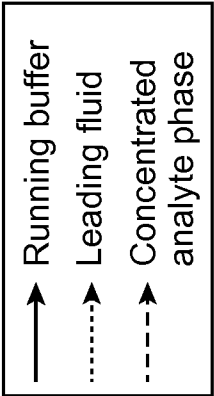
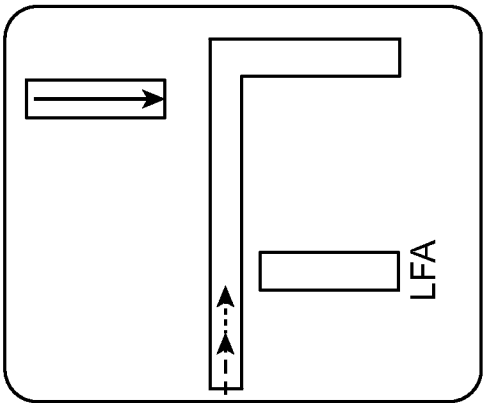
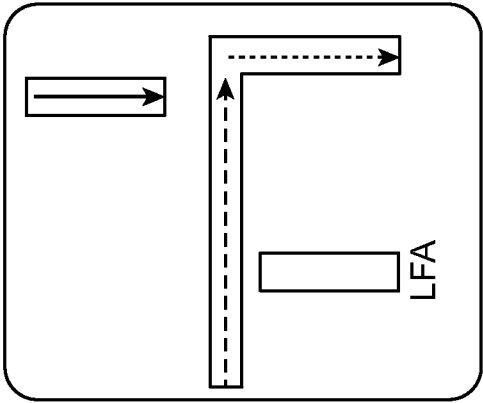
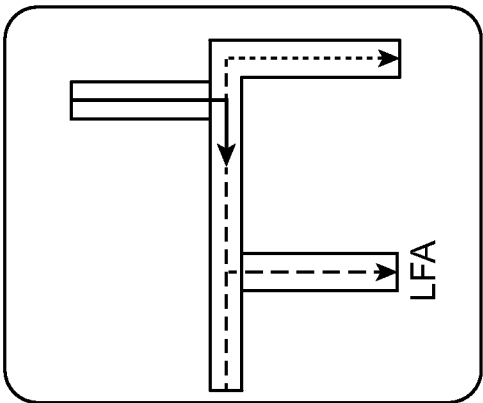


FIG. 18A

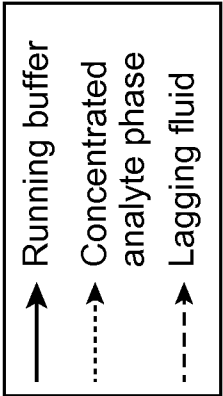
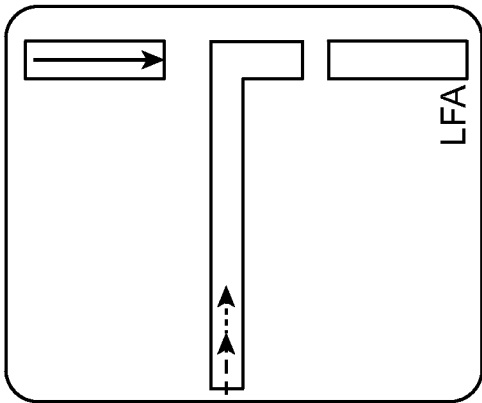
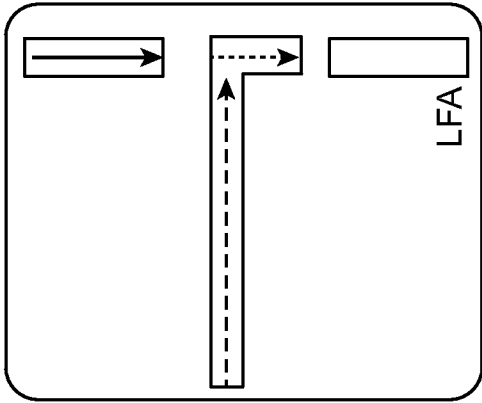
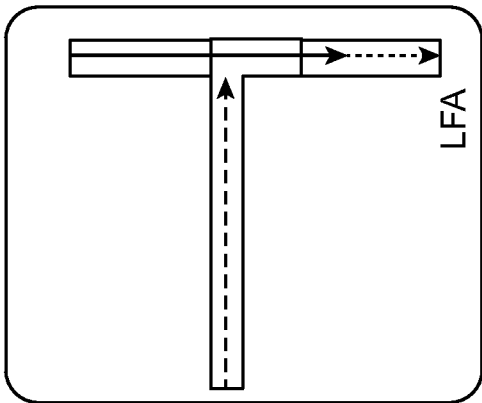


FIG. 18B

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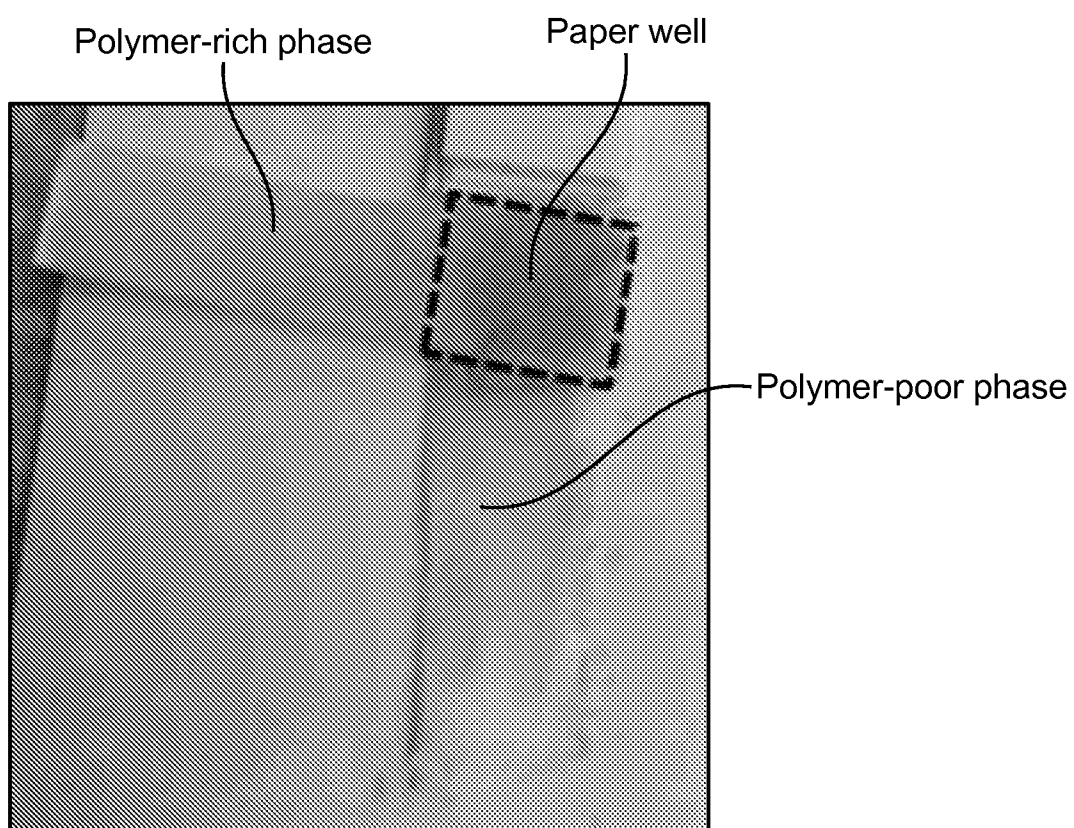


FIG. 19

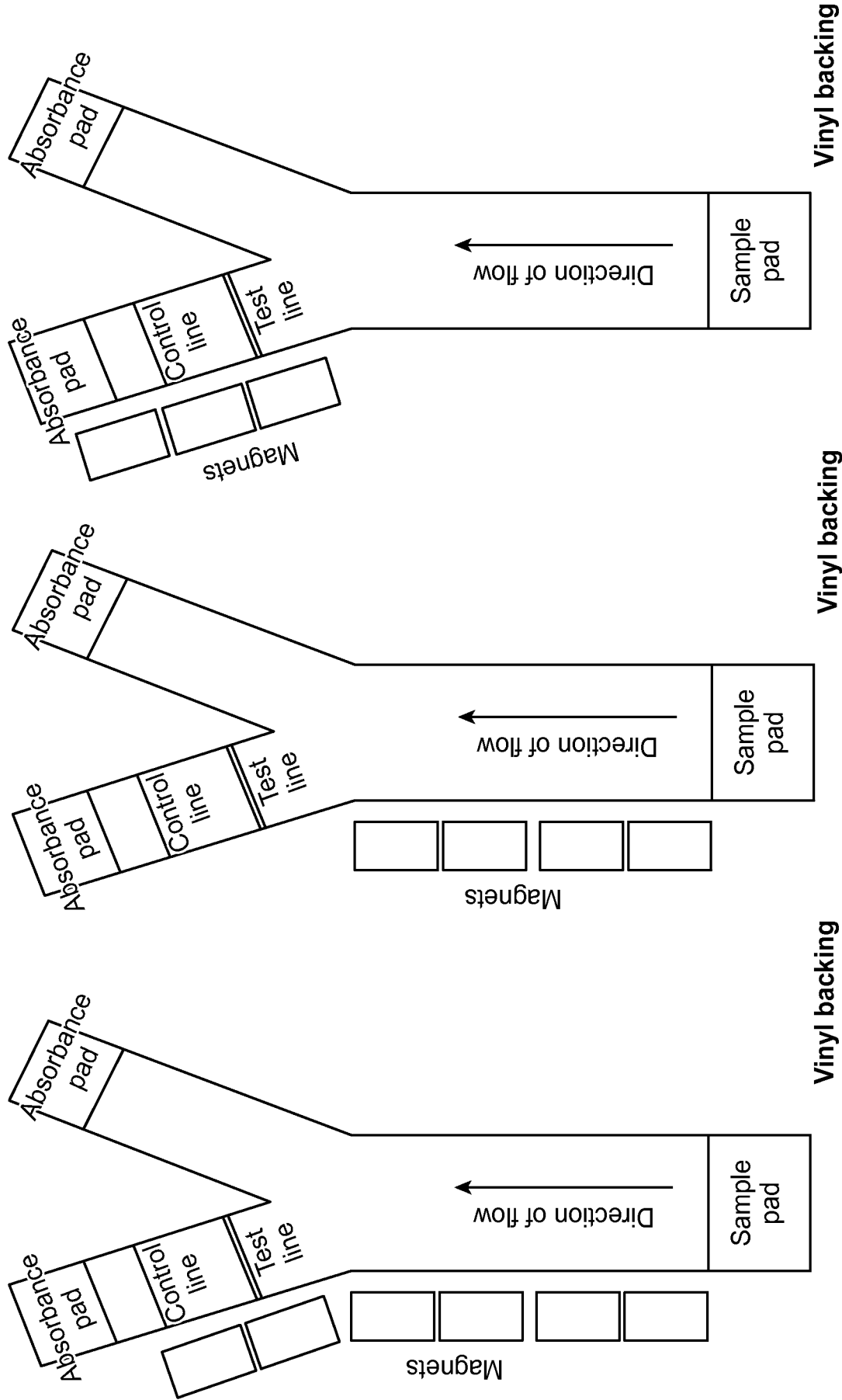


FIG. 20

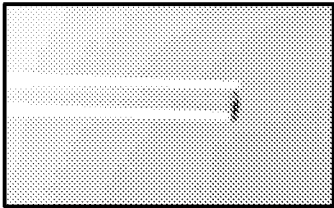
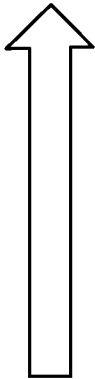


FIG. 21B



Add magnet
Wait 5 sec

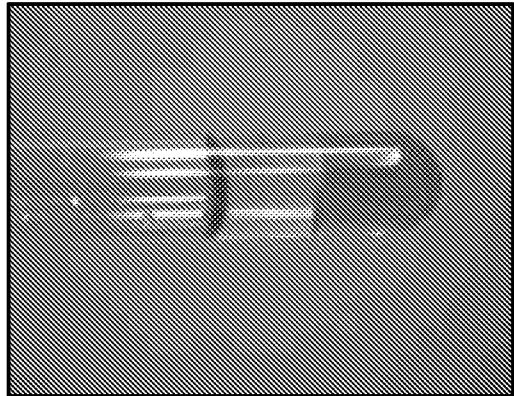


FIG. 21A

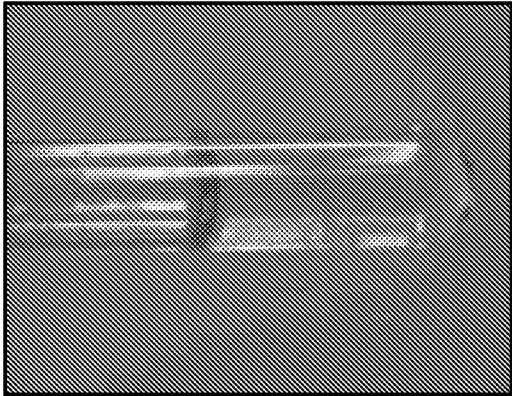


FIG. 21C

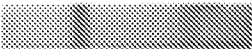
	Without Concentration	With Concentration
Control 0 µg/mL		
500 µg/mL		
50 µg/mL		
5 µg/mL		
0.5 µg/mL		
0.05 µg/mL		
0.005 µg/mL		

FIG. 22

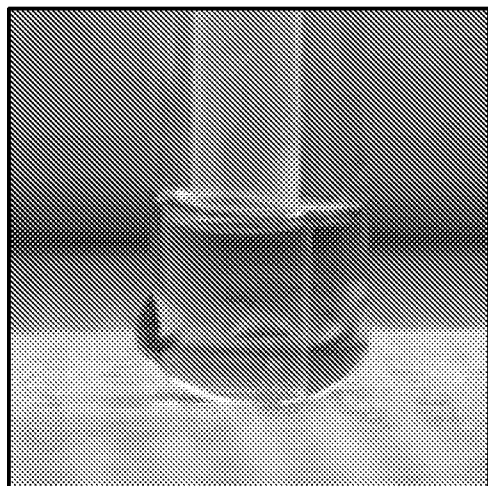


FIG. 23A

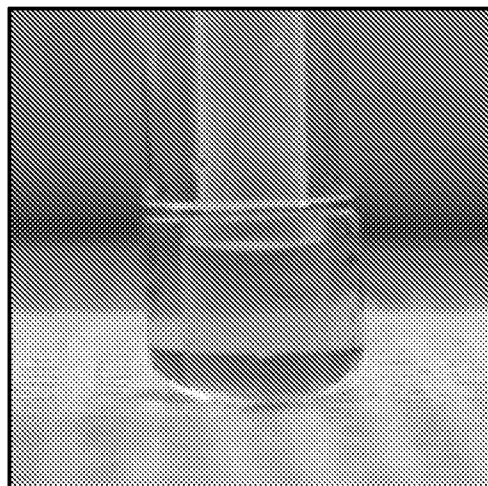


FIG. 23B

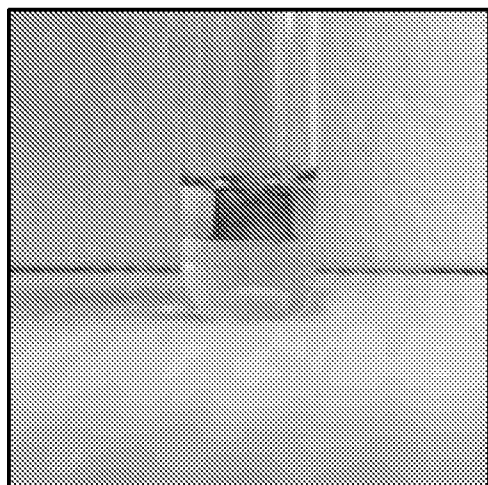


FIG. 23C

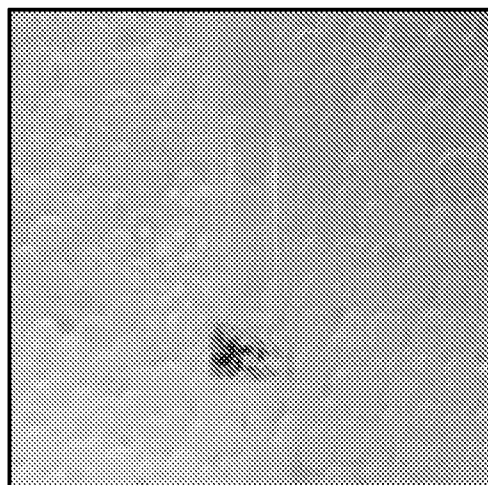


FIG. 23D

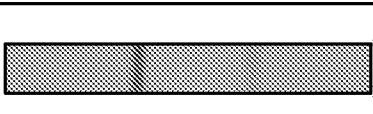
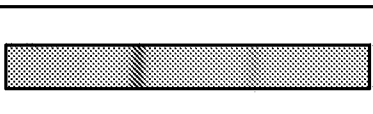
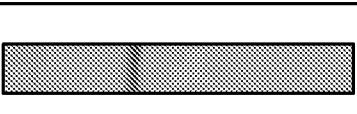
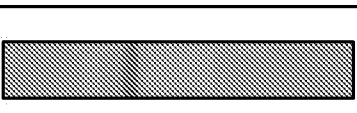
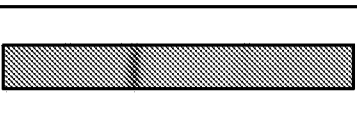
	Negative Control	10 ng/ μ L	1 ng/ μ L	0.2 ng/ μ L	0.1 ng/ μ L	0.01 ng/ μ L
LFA only						
LFA + ATPS						

FIG. 24

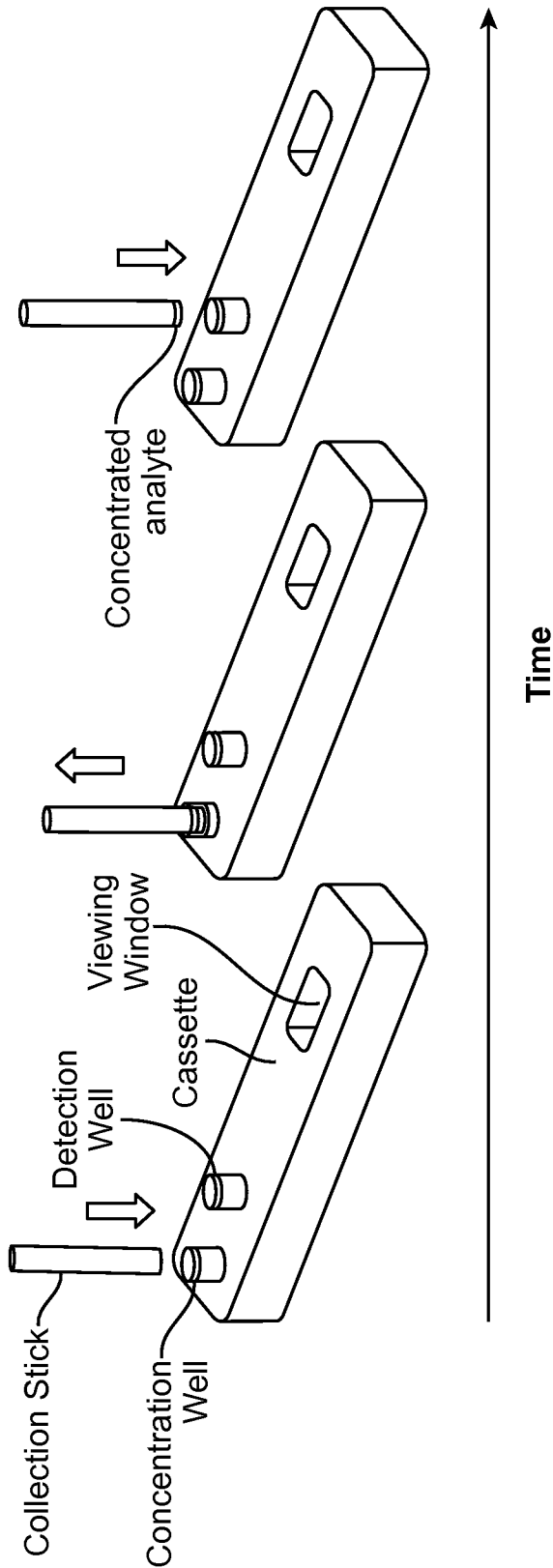


FIG. 25

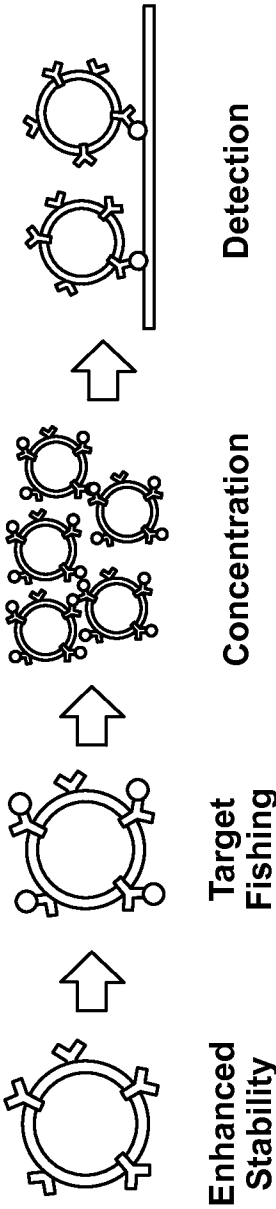


FIG. 26

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Competition Assay

- ⚙ Anti-Tf Dextran Coated Nanoprobe DGNP
- ⚡ Anti-IgG
- Transferrin (Tf)

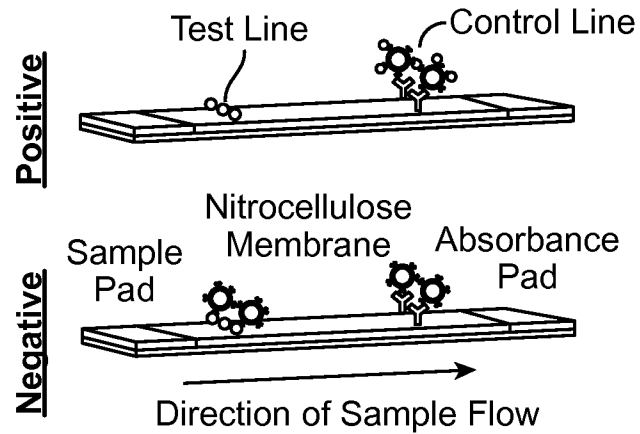


FIG. 27

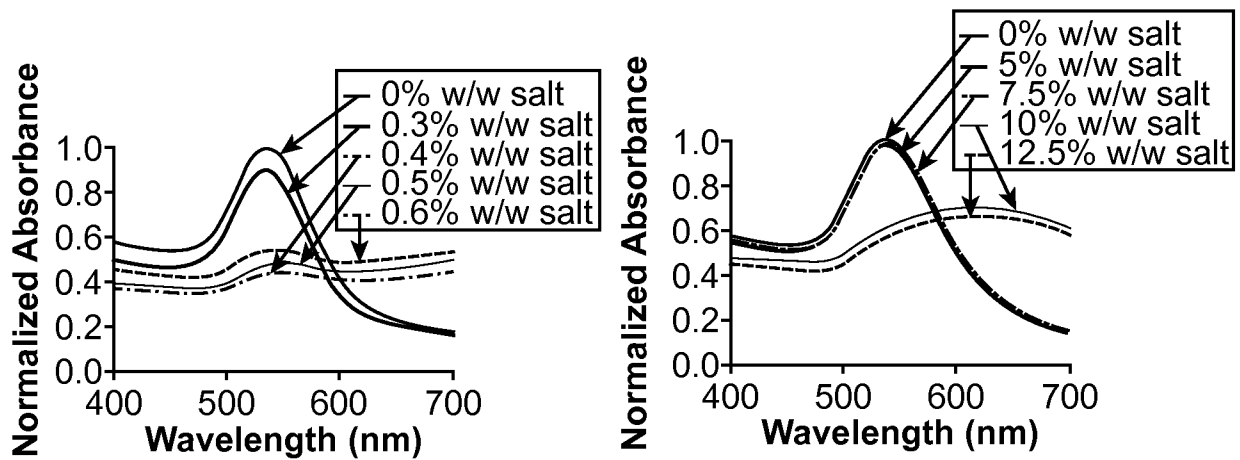


FIG. 28A

FIG. 28B

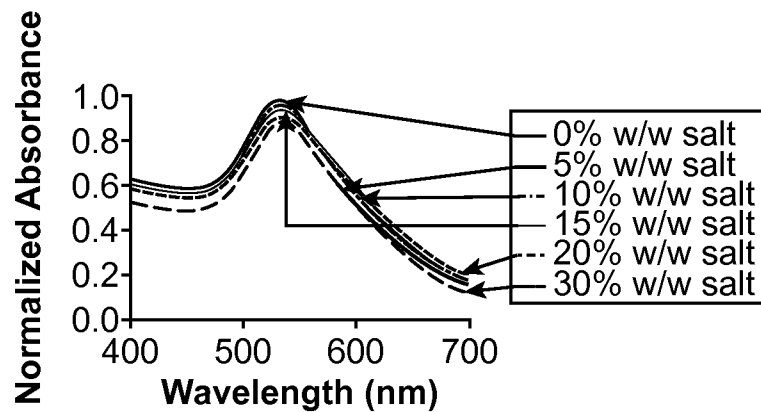


FIG. 28C

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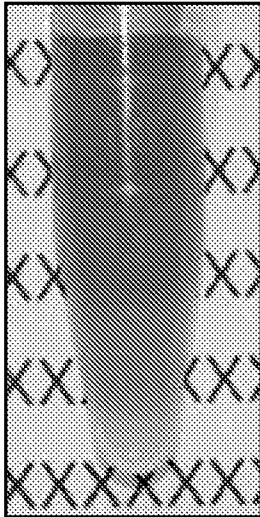


FIG. 29A

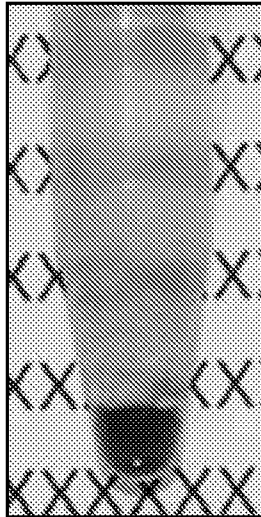


FIG. 29B

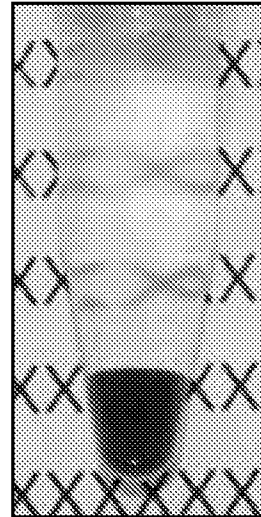


FIG. 29C

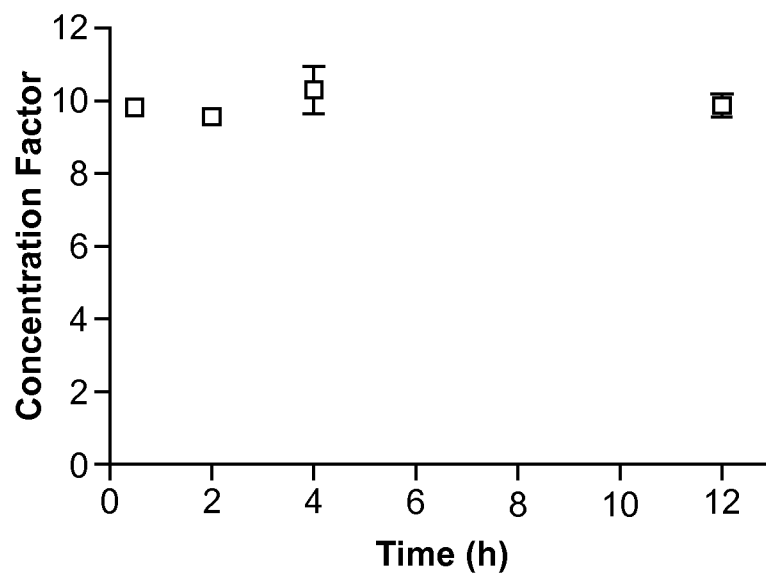


FIG. 30

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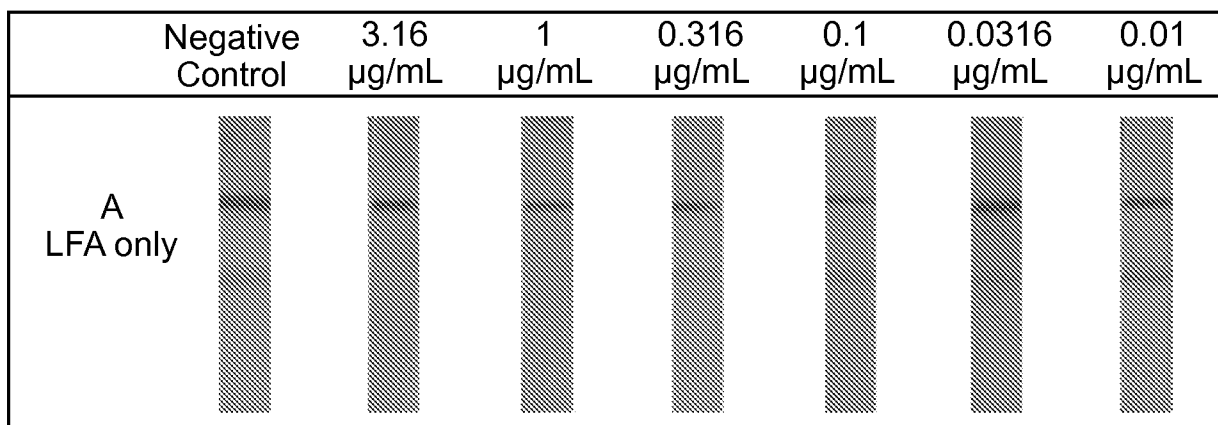


FIG. 31A

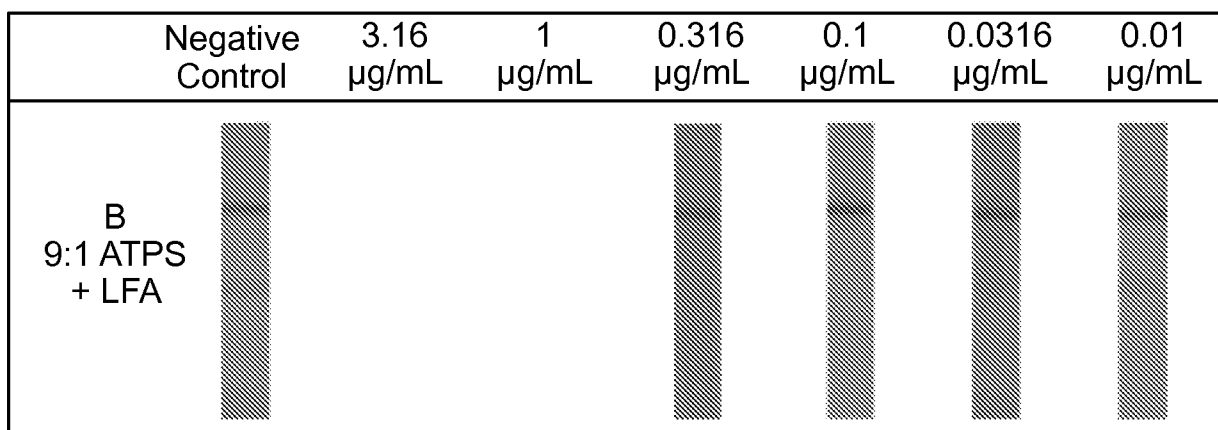


FIG. 31B

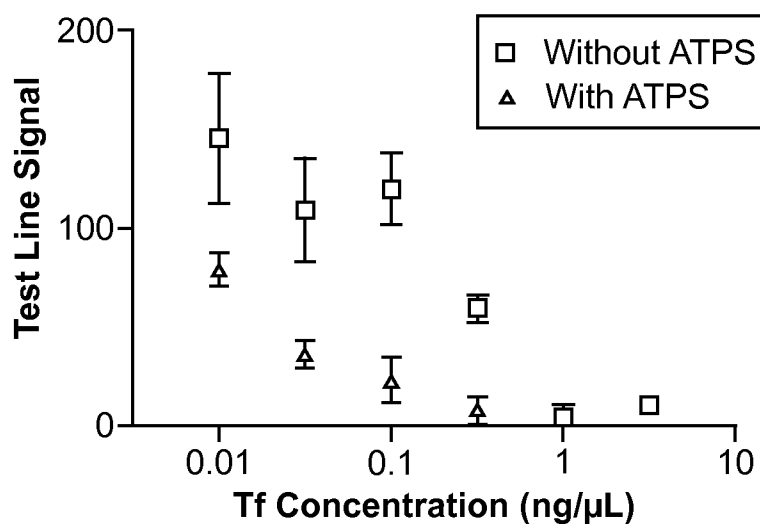
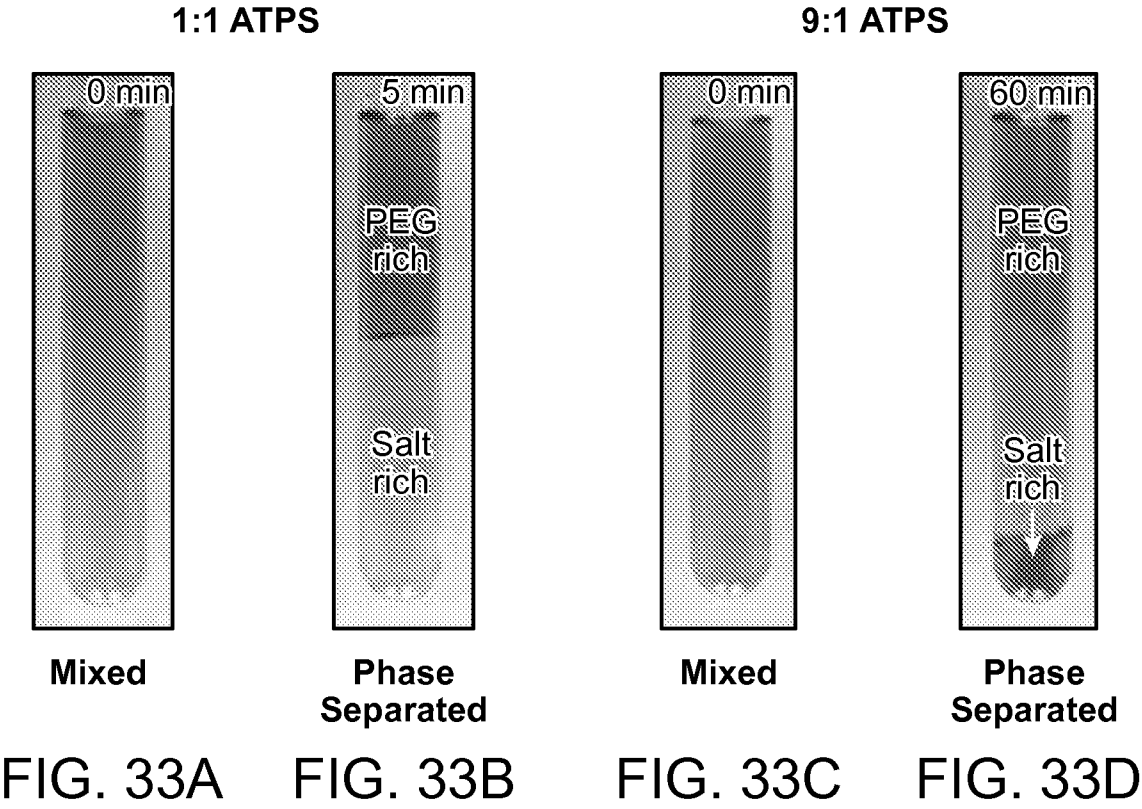


FIG. 32



1:1 Paper Membrane

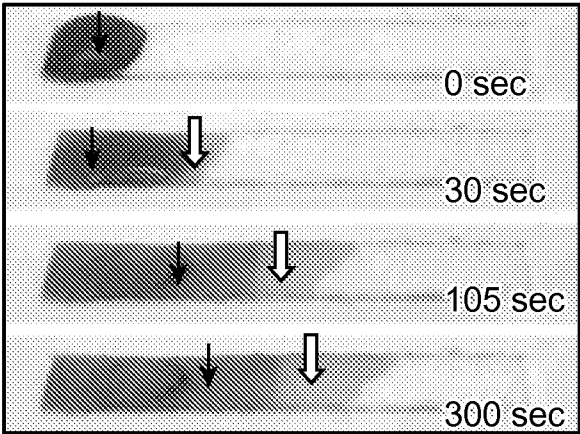


FIG. 34A

9:1 Paper Membrane

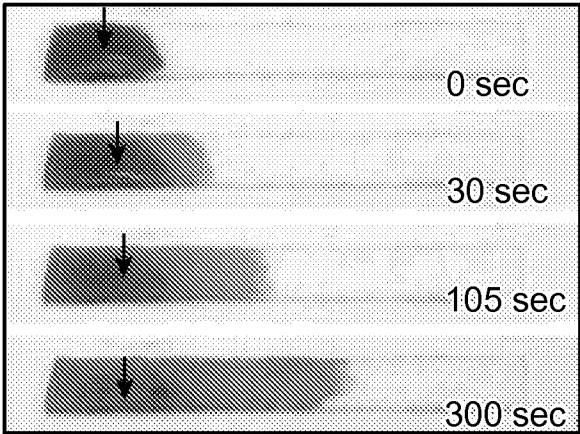


FIG. 34B

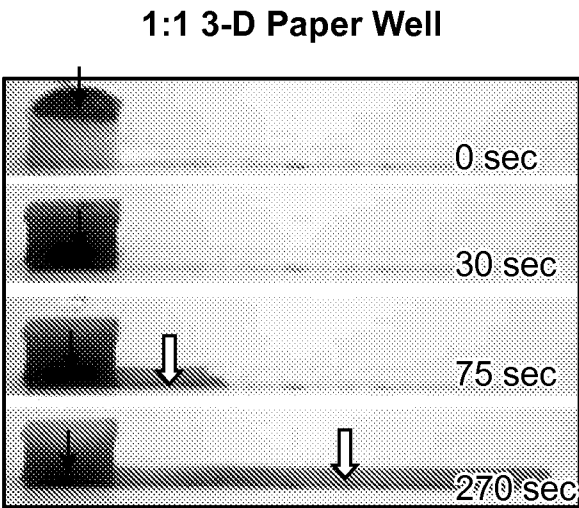


FIG. 35A

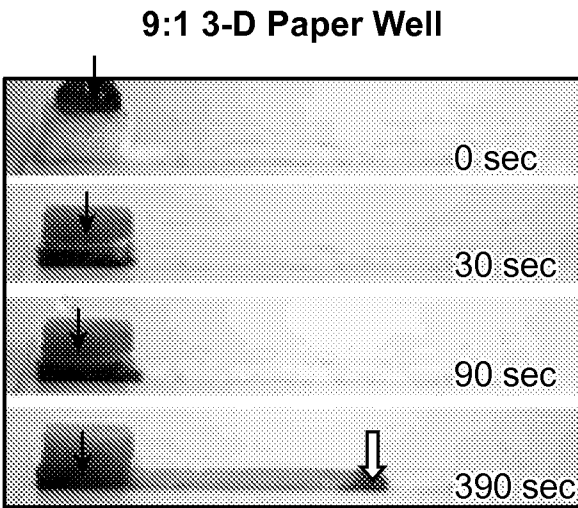


FIG. 35B

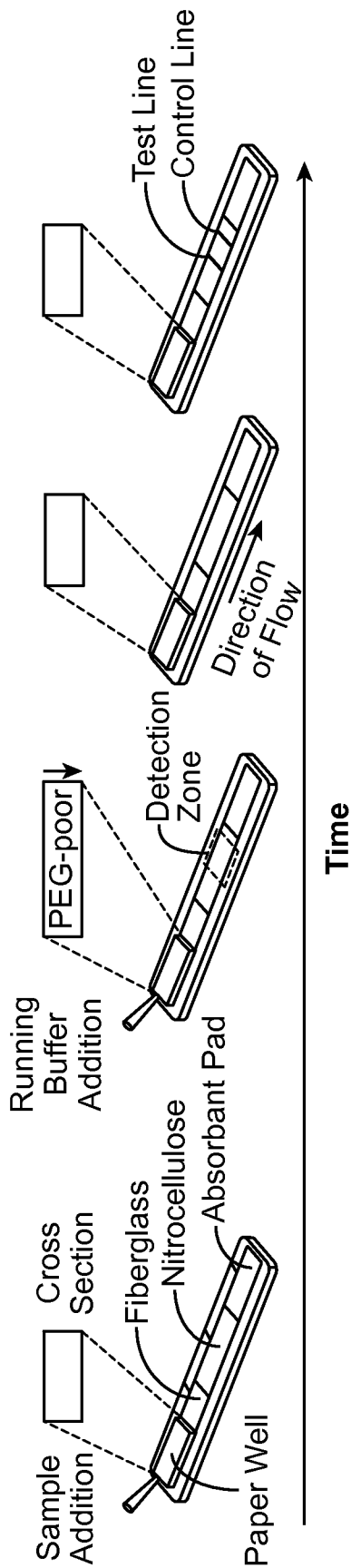


FIG. 36A

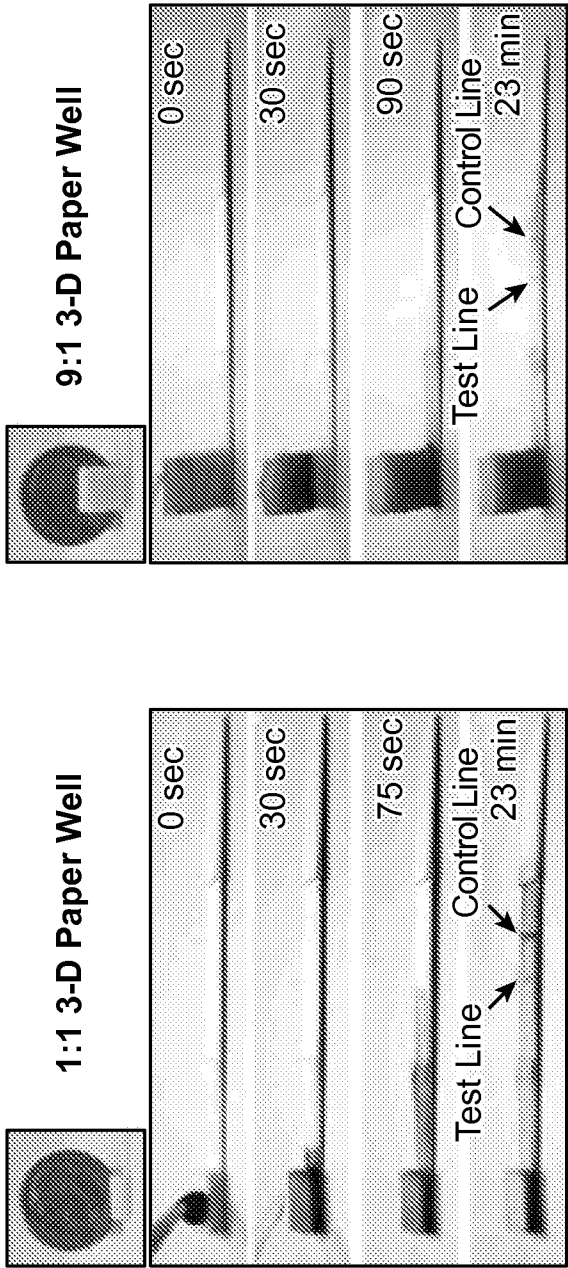


FIG. 36B

FIG. 36C

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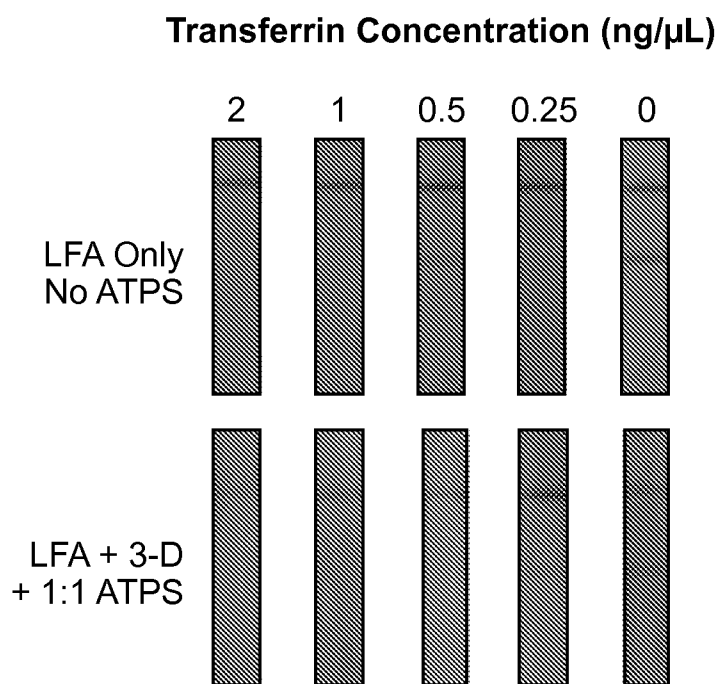


FIG. 37A

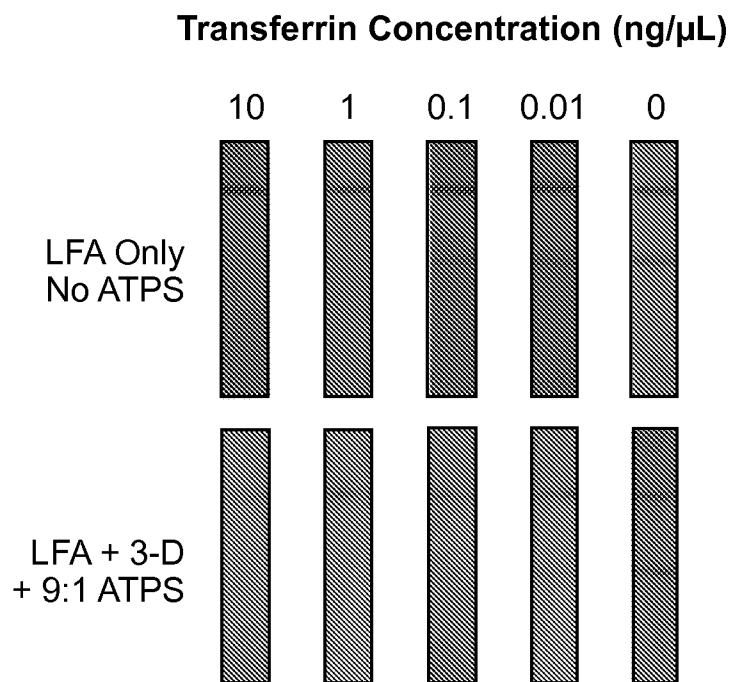


FIG. 37B

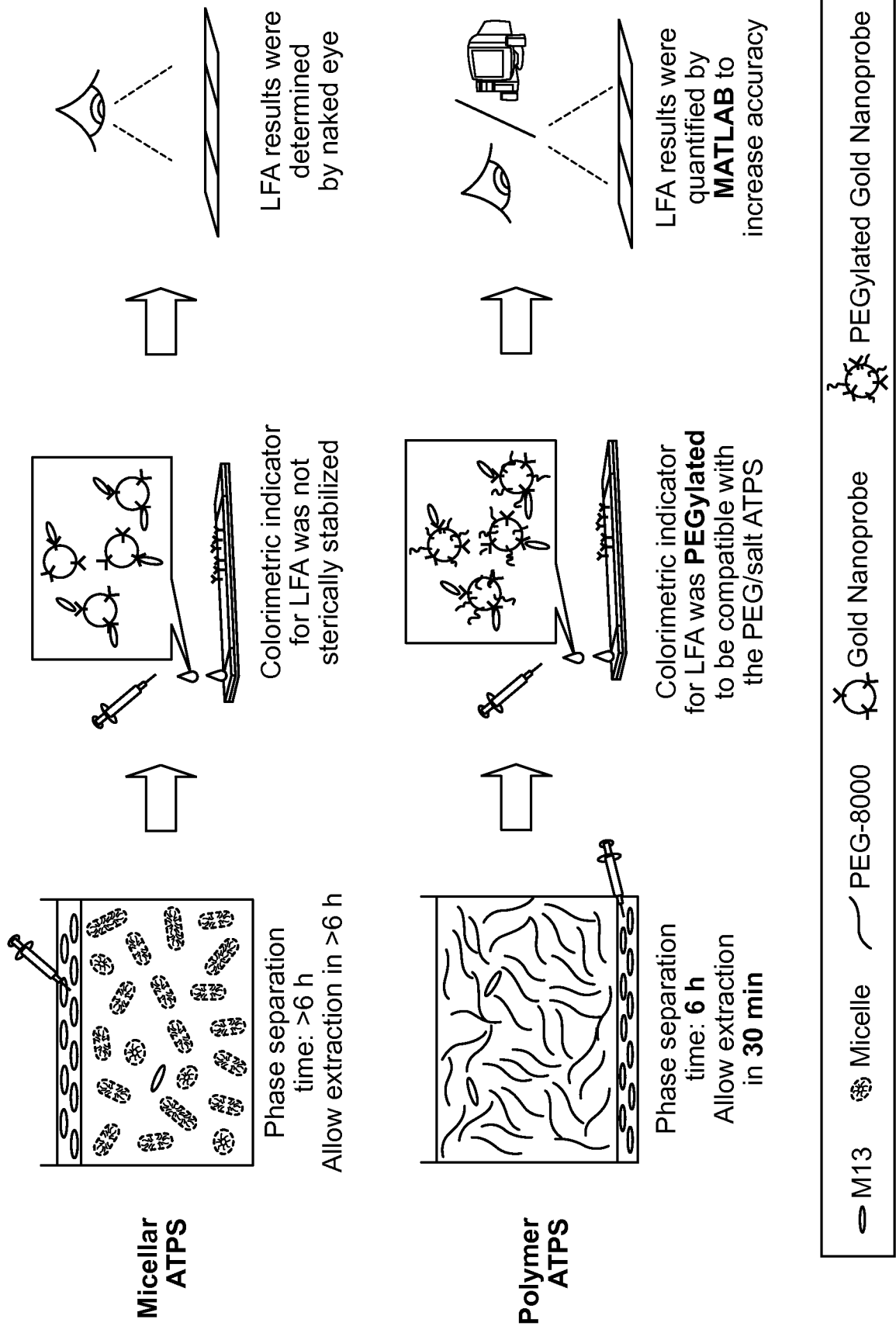


FIG. 38

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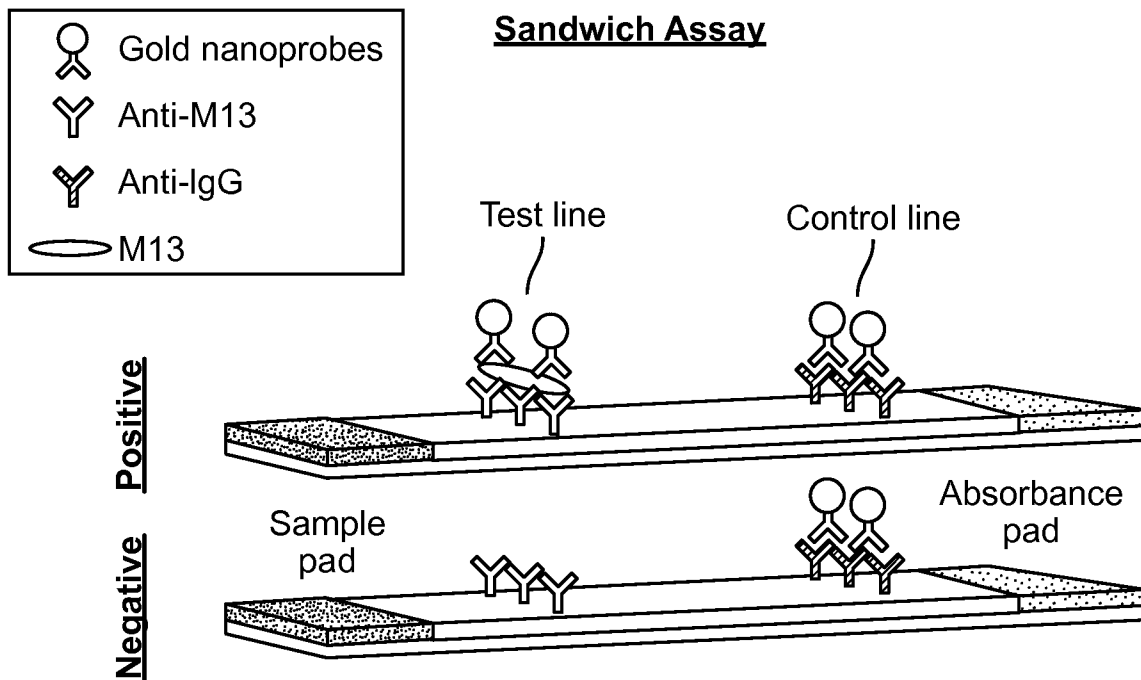


FIG. 39

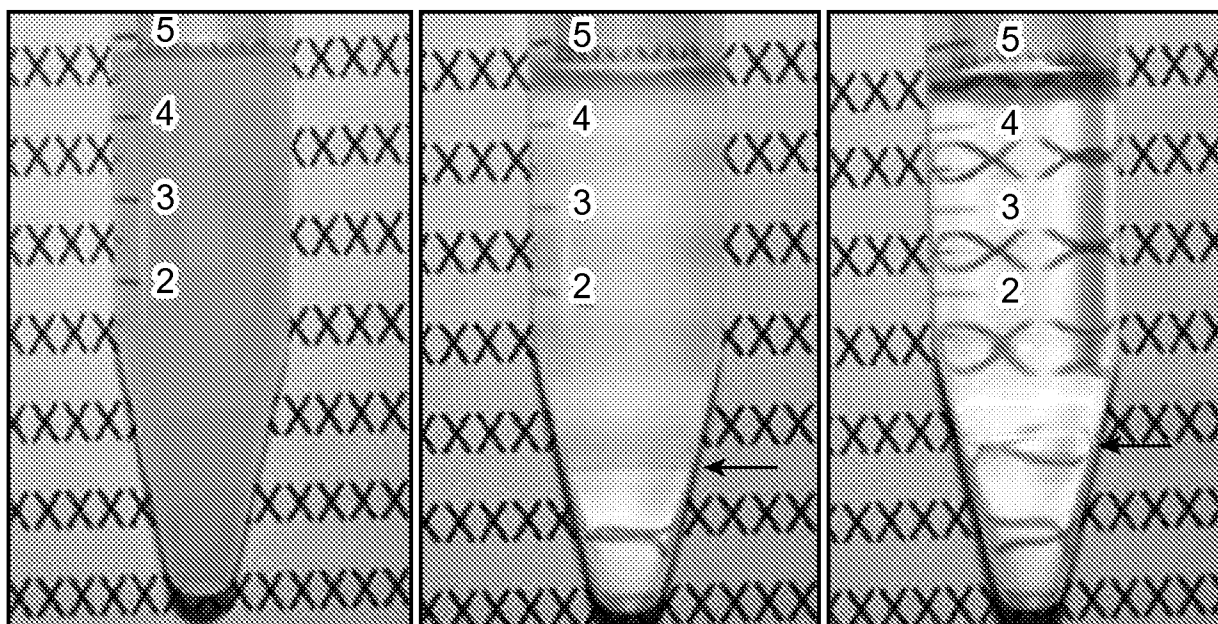


FIG. 40A

FIG. 40B

FIG. 40C

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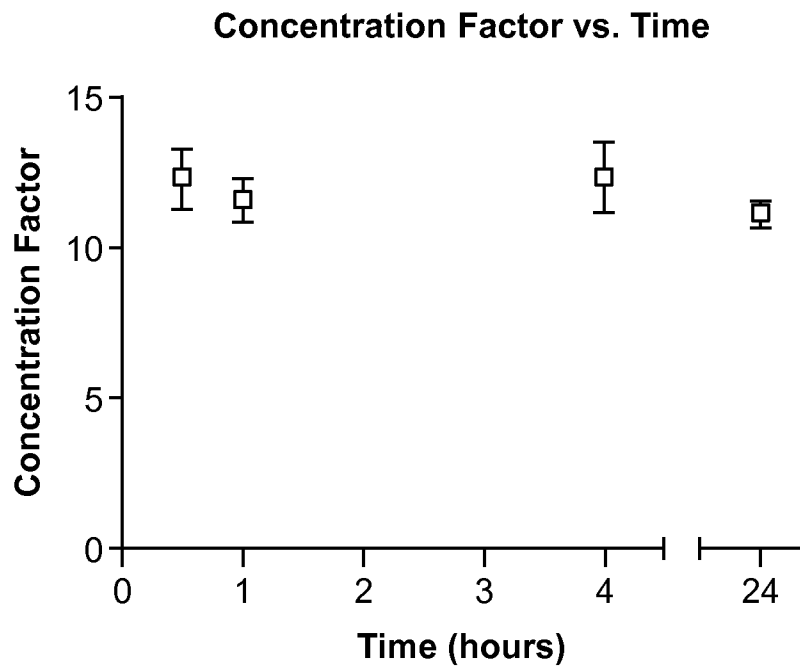


FIG. 41

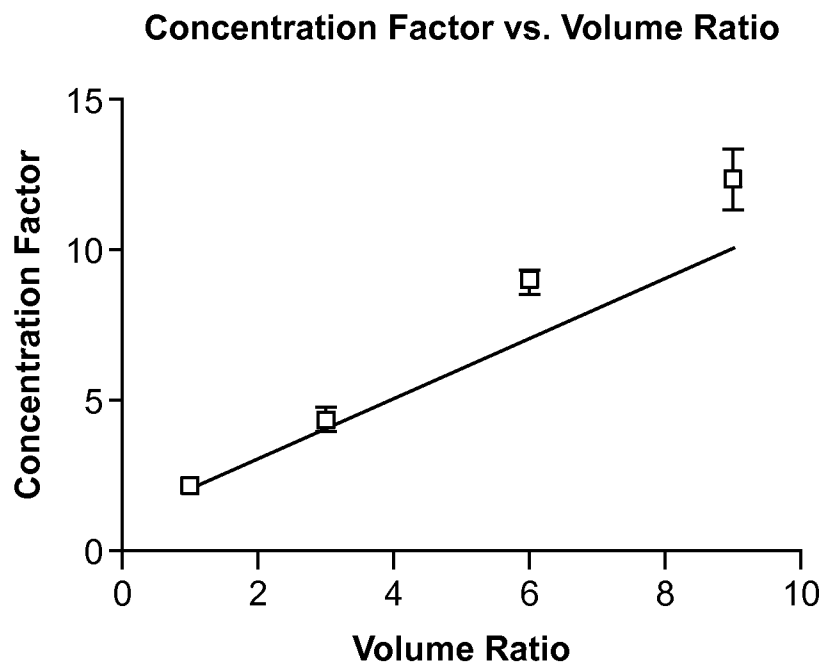
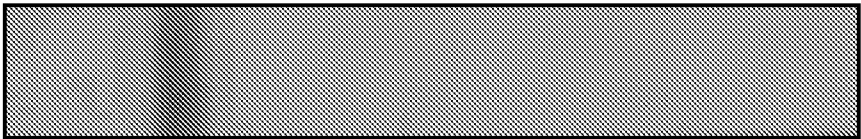
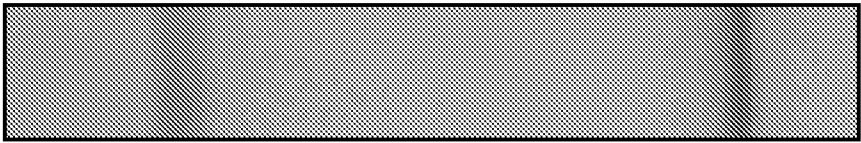
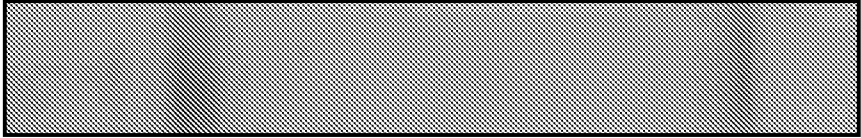
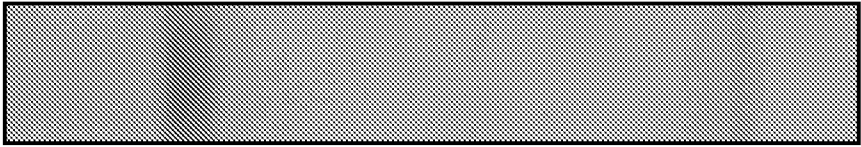
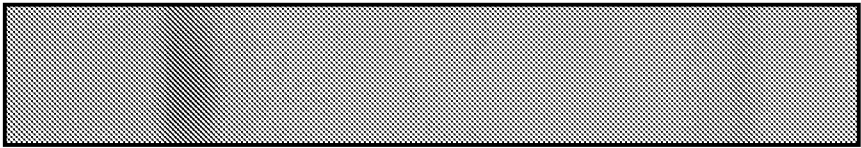
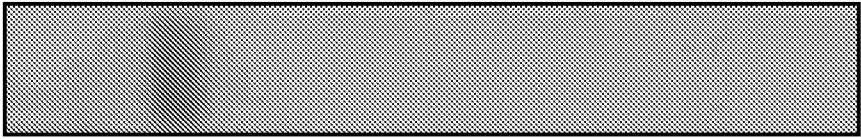


FIG. 42



Control →
line

Test line →

FIG. 43A FIG. 43B FIG. 43C FIG. 43D FIG. 43E FIG. 43F

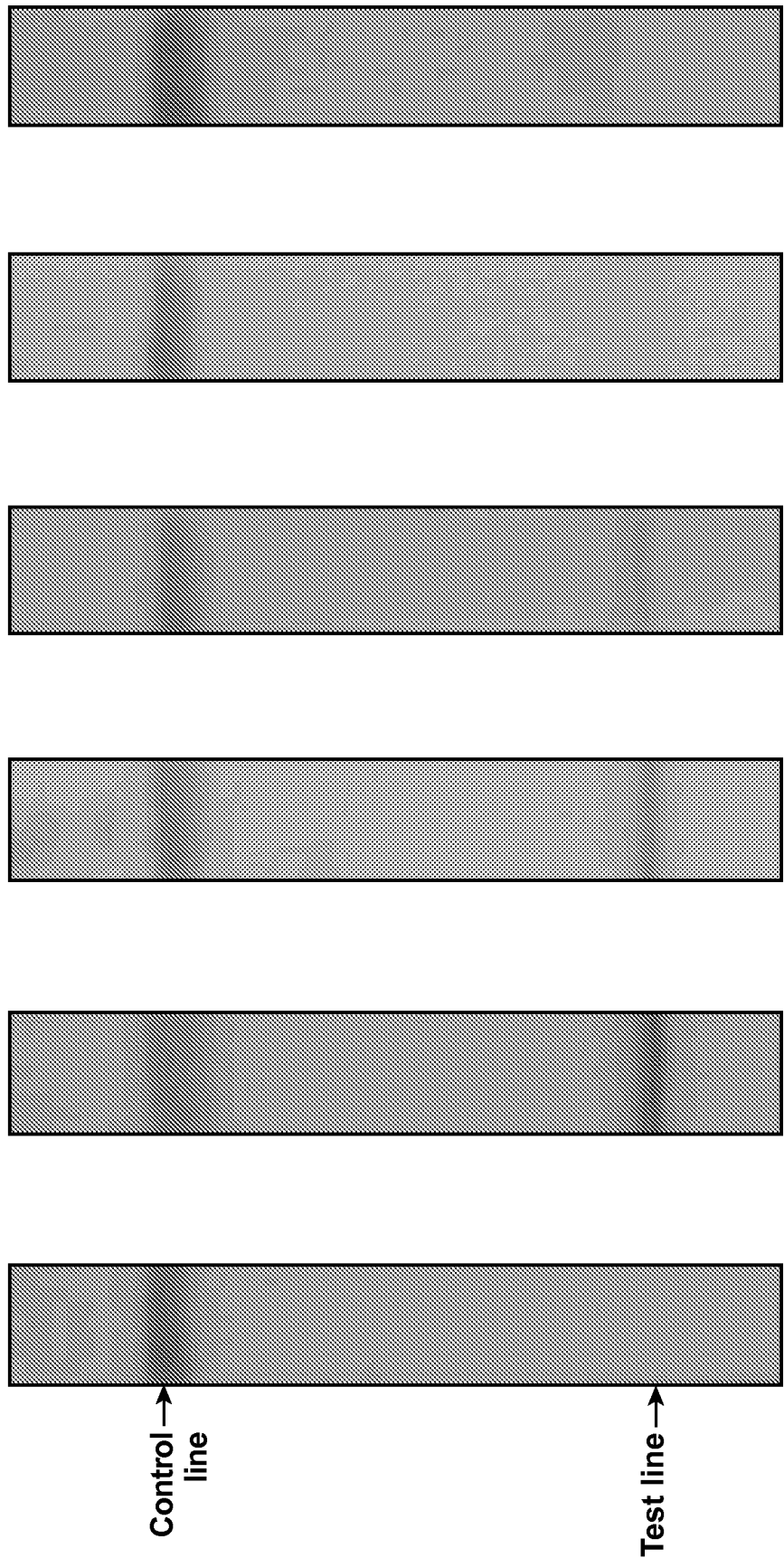


FIG. 44A FIG. 44B FIG. 44C FIG. 44D FIG. 44E FIG. 44F

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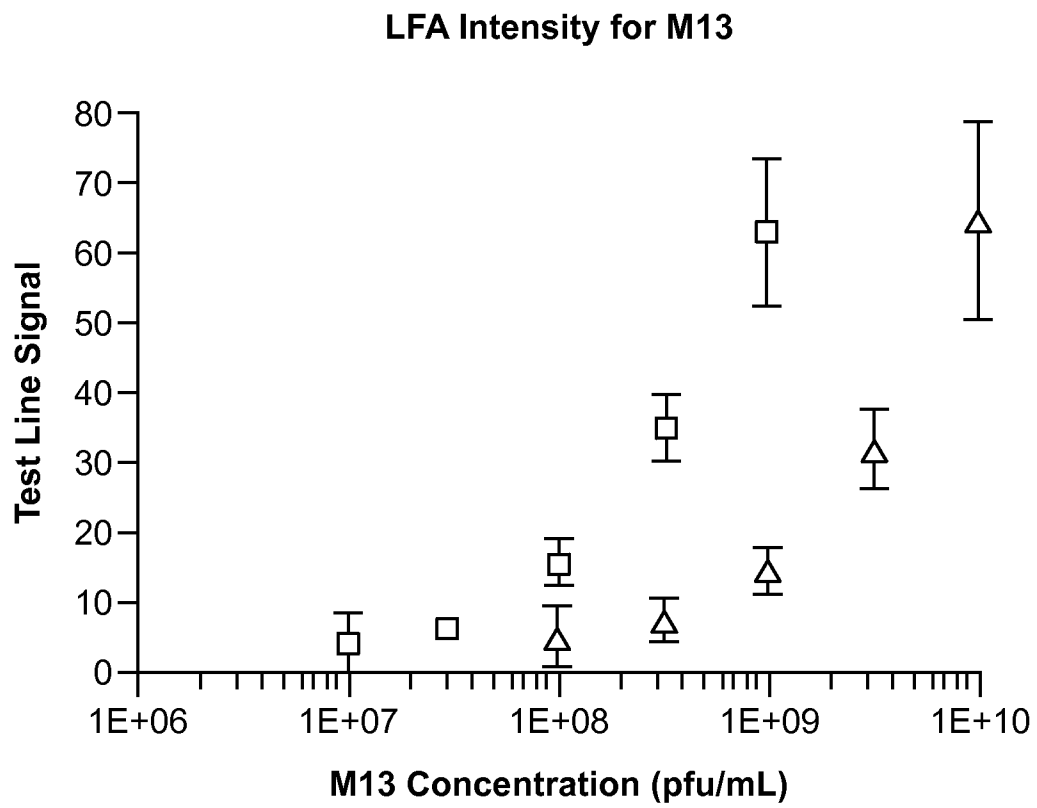


FIG. 45

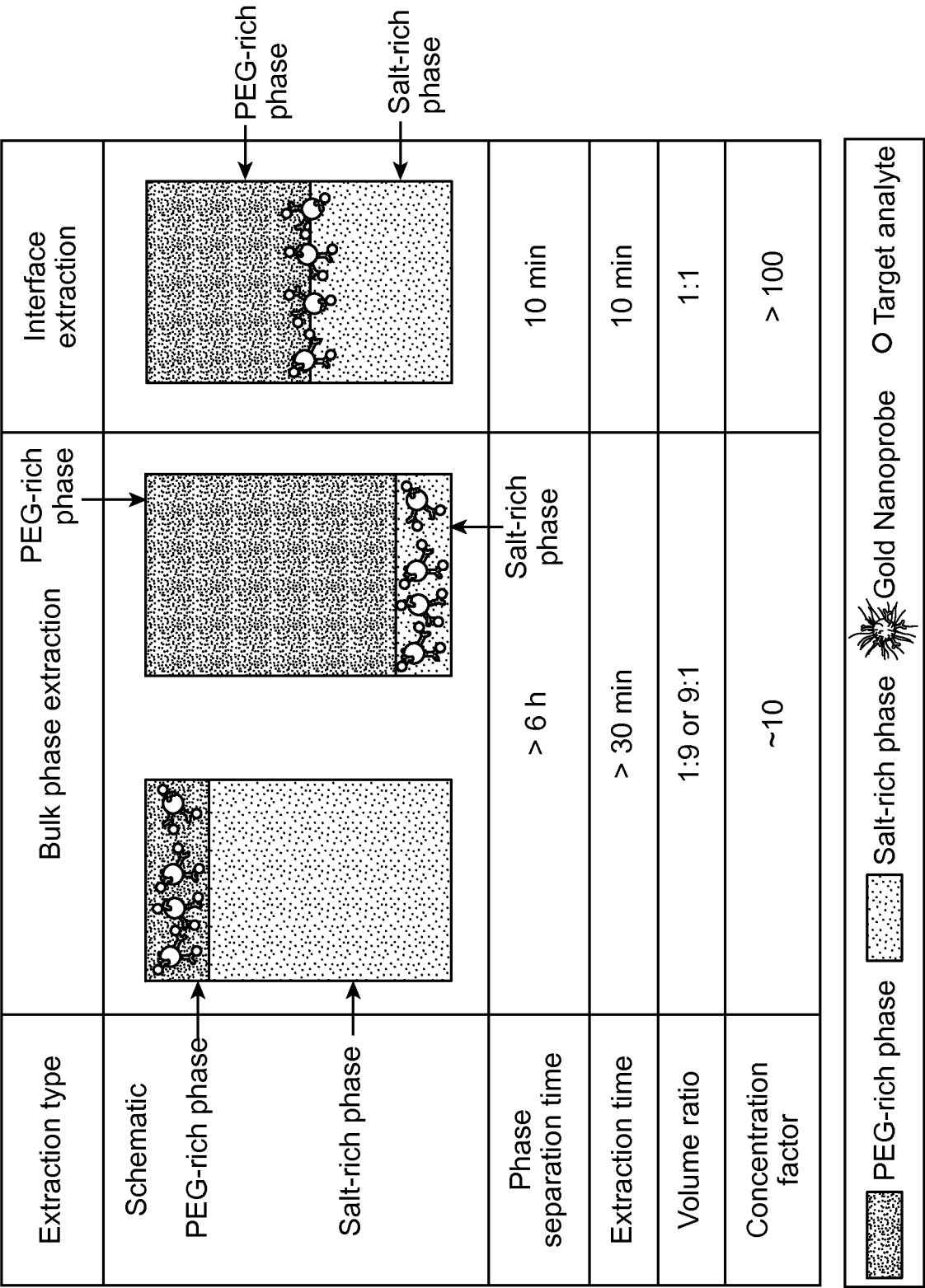


FIG. 46

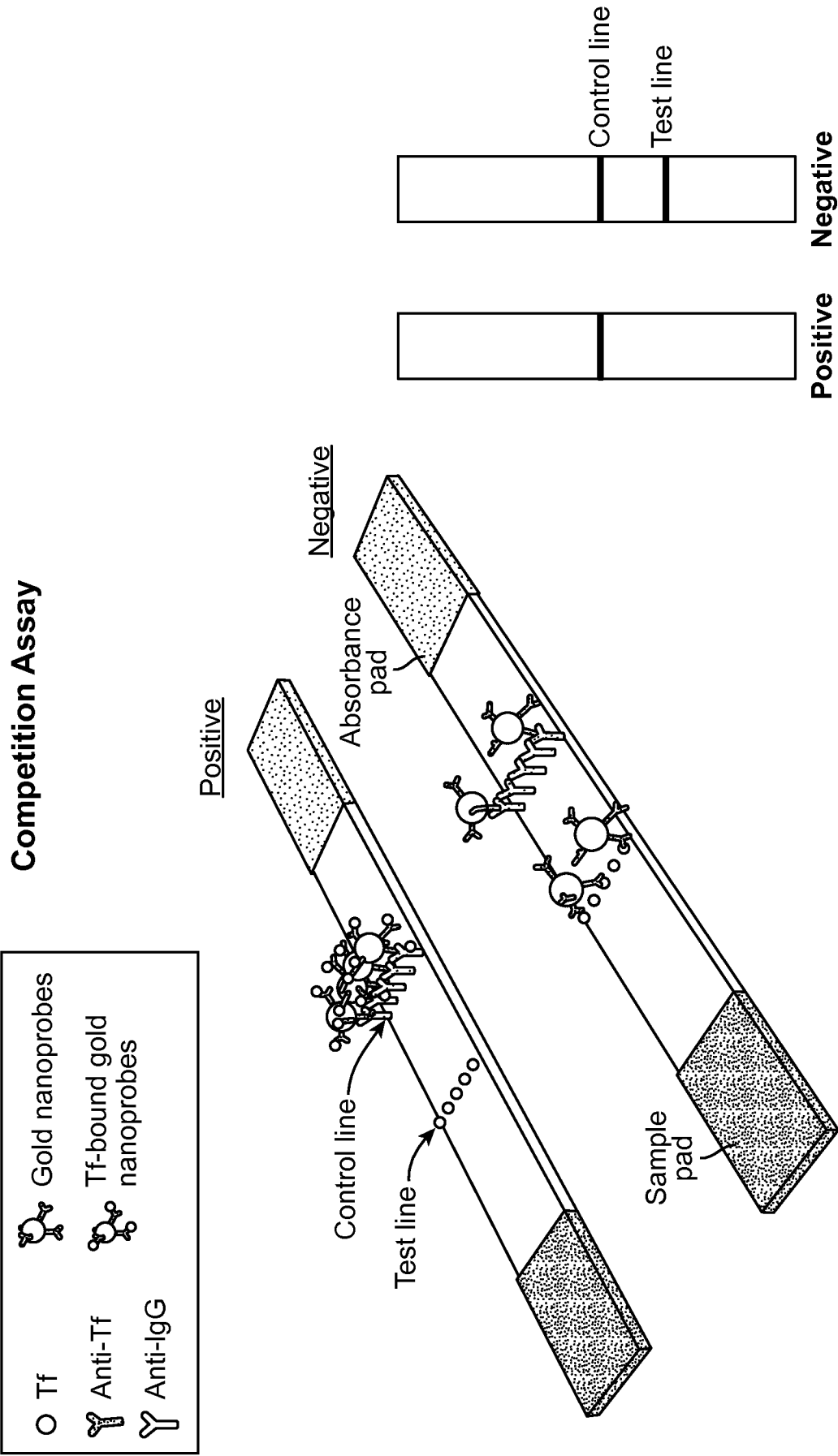
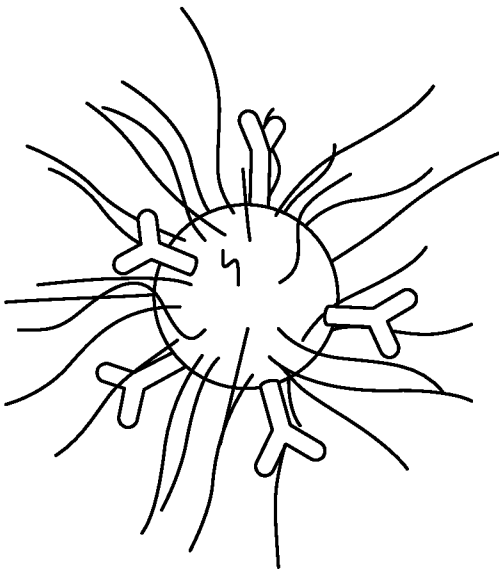


FIG. 47



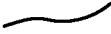
 PEG	 Gold Nanoparticle	 Anti-Tf
▪ Prevents aggregation of GNPs in high salt environment of PEG-poor phase ▪ Increases the hydrophobicity of the nanoparticles by increasing PEG-PEG interactions to drive the nanoparticle into the PEG-rich phase	▪ Greater excluded-volume interactions with PEG in the PEG-rich phase drive the nanoparticles into the PEG-poor phase	▪ Increases the hydrophilicity of the nanoparticles to drive the nanoparticles into the PEG-poor phase

FIG. 48A

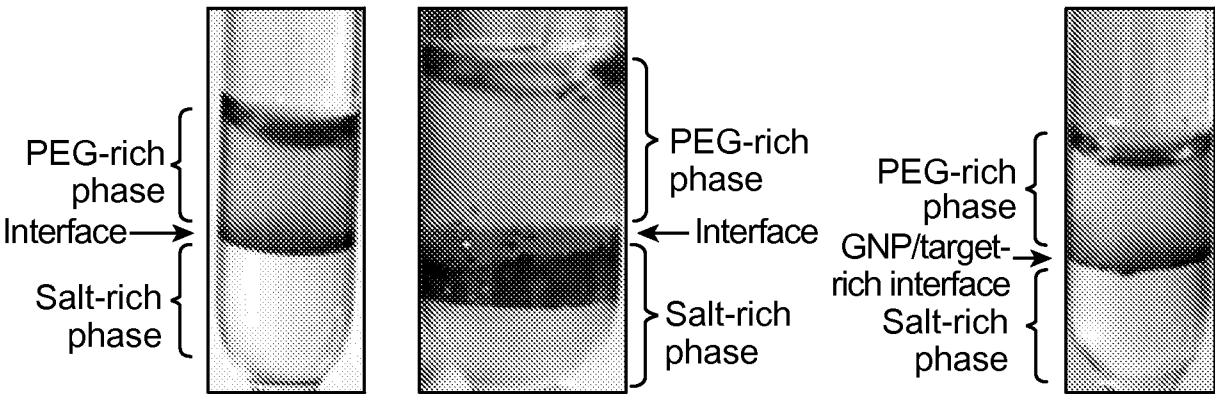


FIG. 48B FIG. 48C

FIG. 48D

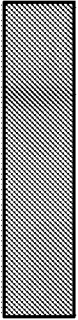
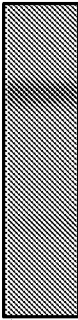
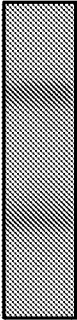
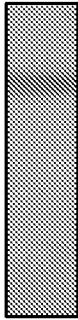
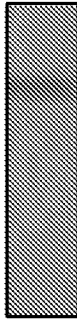
	Negative (0 ng/μL)	1 ng/μL	0.1 ng/μL	0.01 ng/μL	0.001 ng/μL
LFA only (50 μL)					
ATPS Interface extraction + LFA (5000 μL)					

FIG. 49

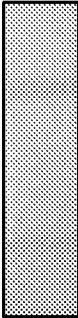
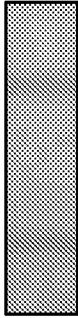
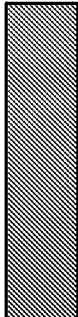
	Negative (0 ng/μL)	1 ng/μL	0.1 ng/μL	0.01 ng/μL	0.001 ng/μL
LFA only (10 μL)					
ATPS Interface extraction + LFA (1000 μL)					

FIG. 50

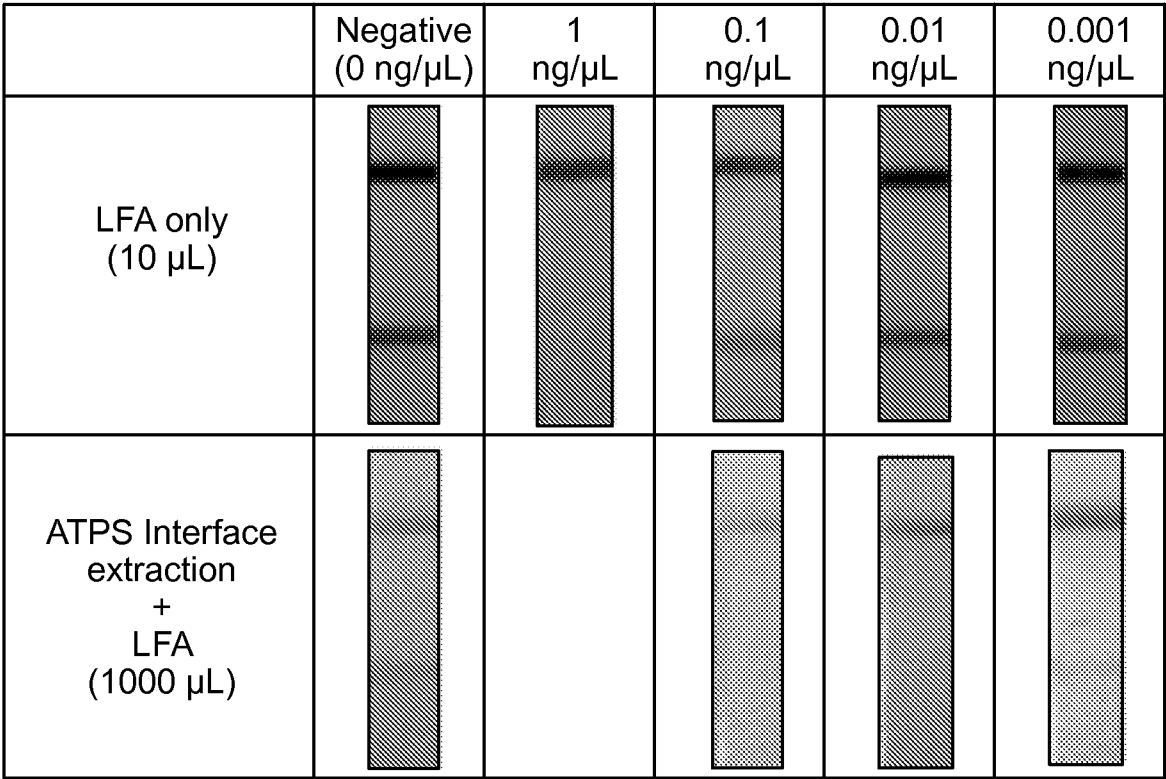


FIG. 51

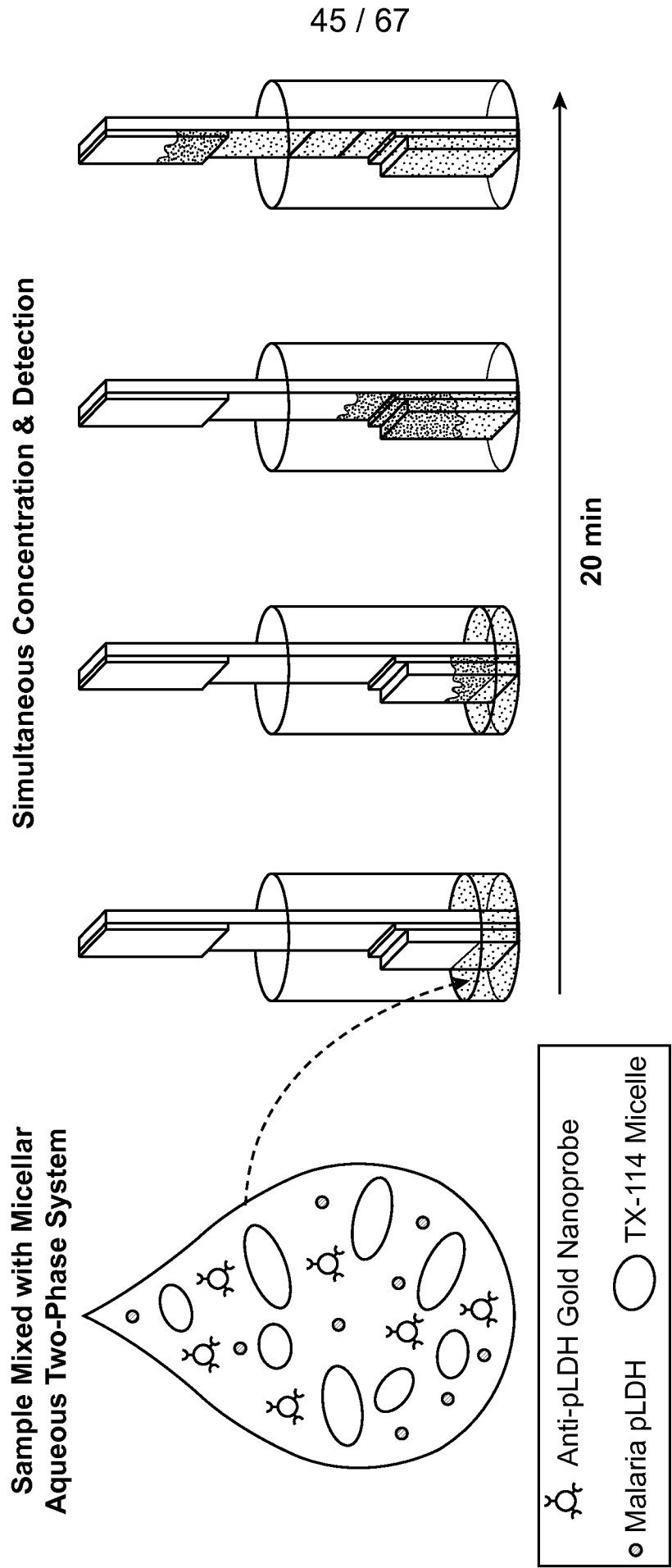


FIG. 52

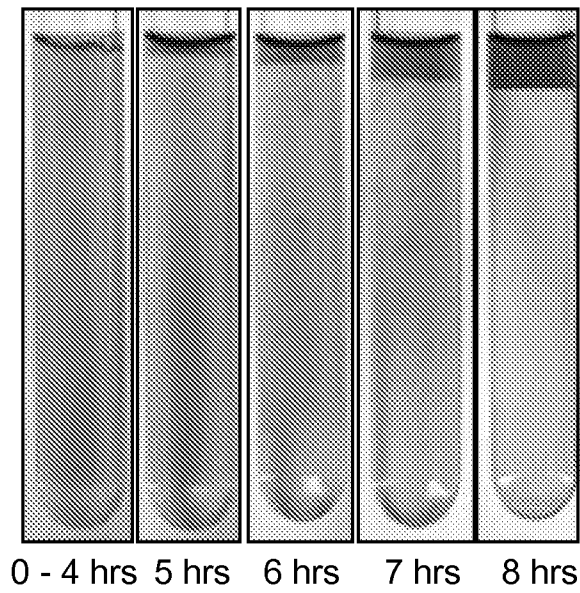


FIG. 53A

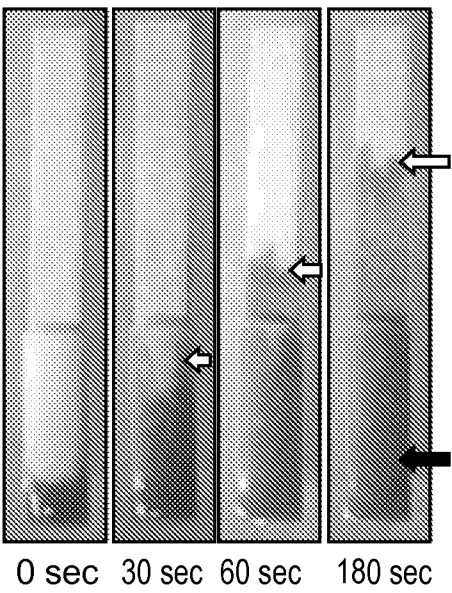
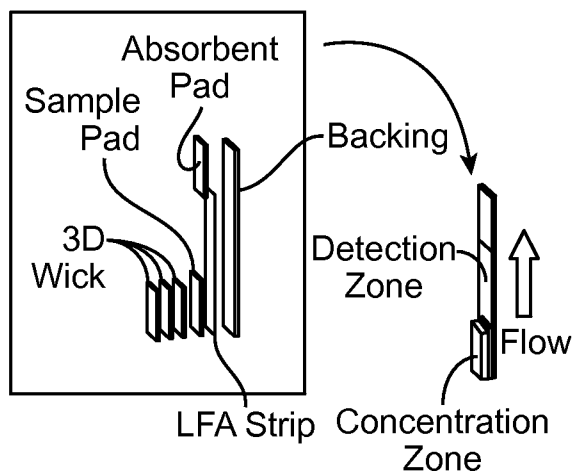


FIG. 53B



Assay Components

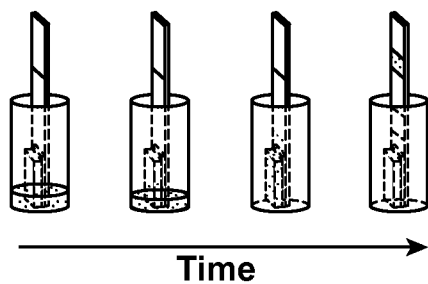


FIG. 54A

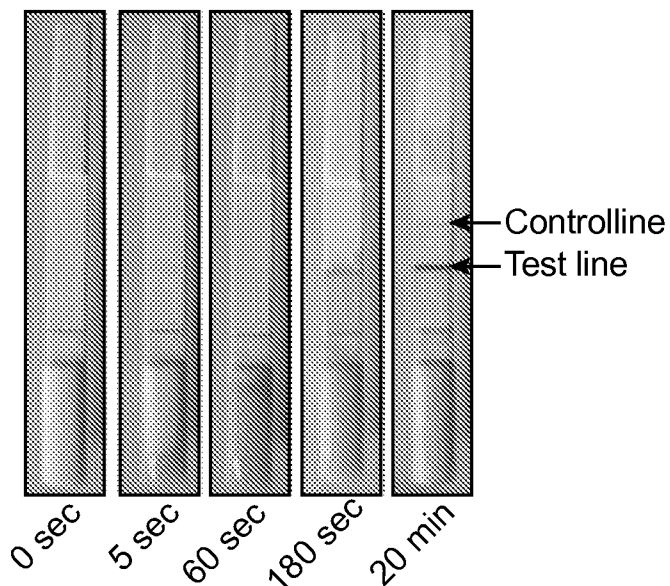


FIG. 54B

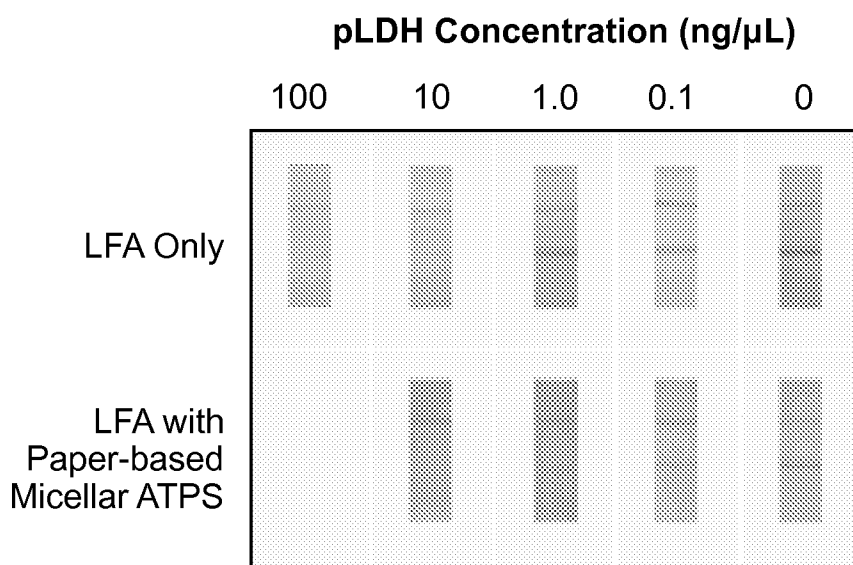


FIG. 55

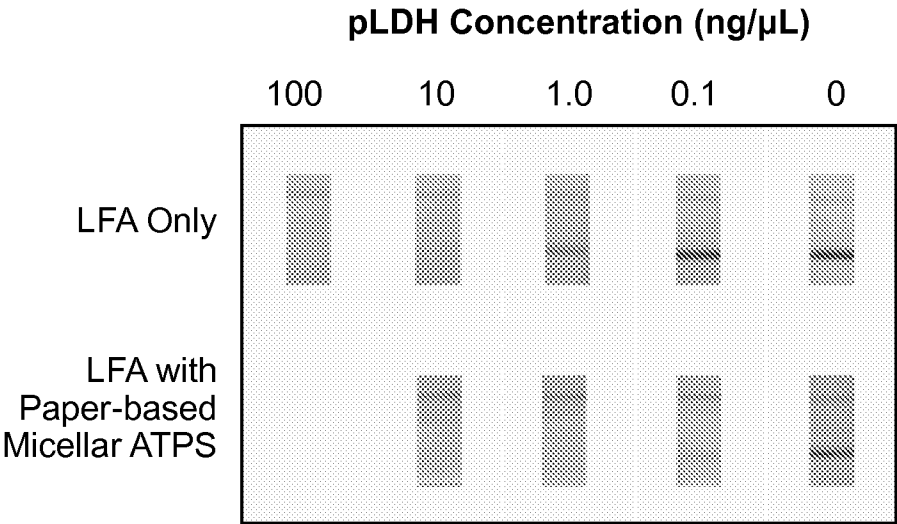


FIG. 56

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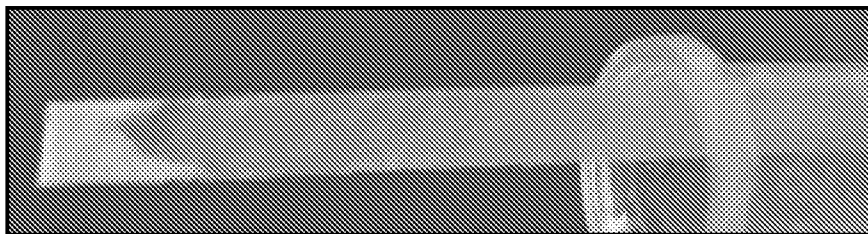


FIG. 57A

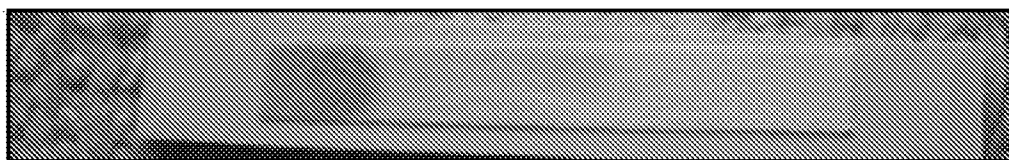


FIG. 57B

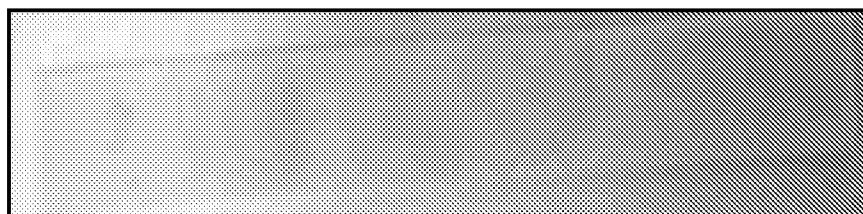


FIG. 57C



FIG. 57D

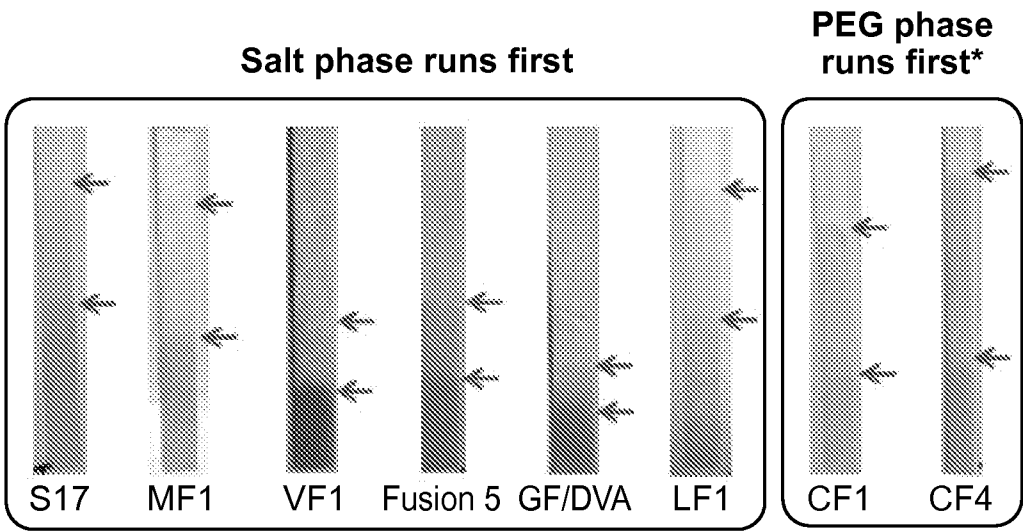


FIG. 58A

FIG. 58B

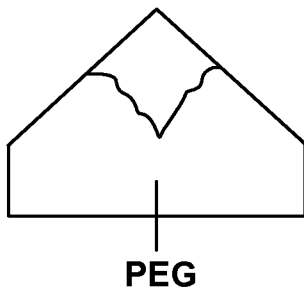


FIG. 59A

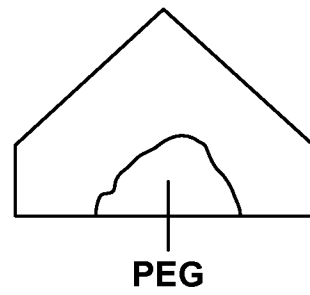


FIG. 59B

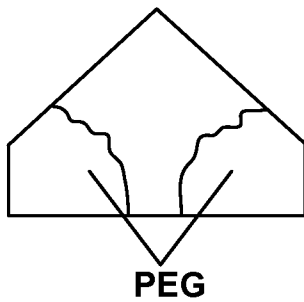


FIG. 59C

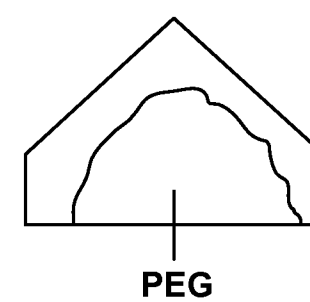


FIG. 59D

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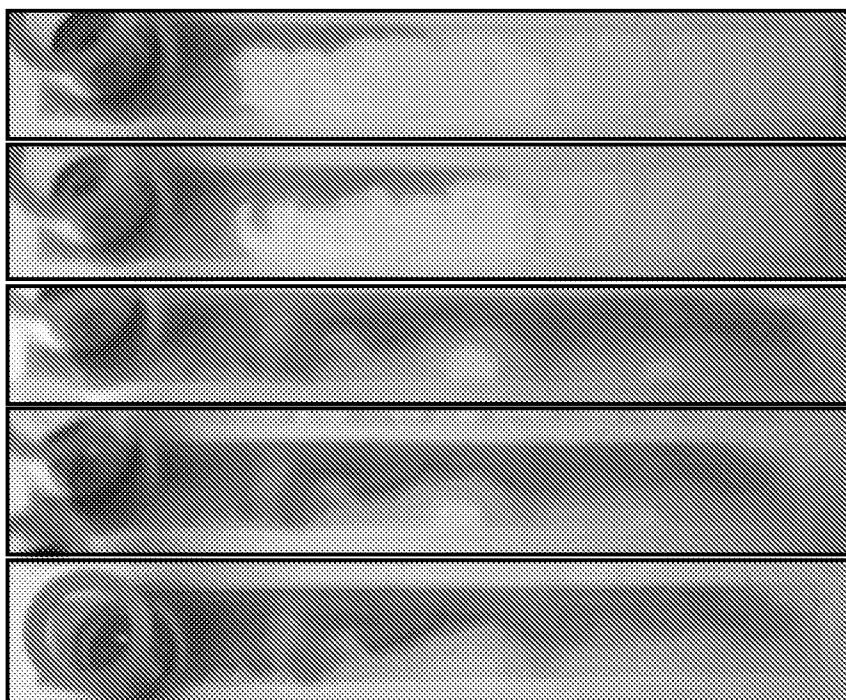


FIG. 60

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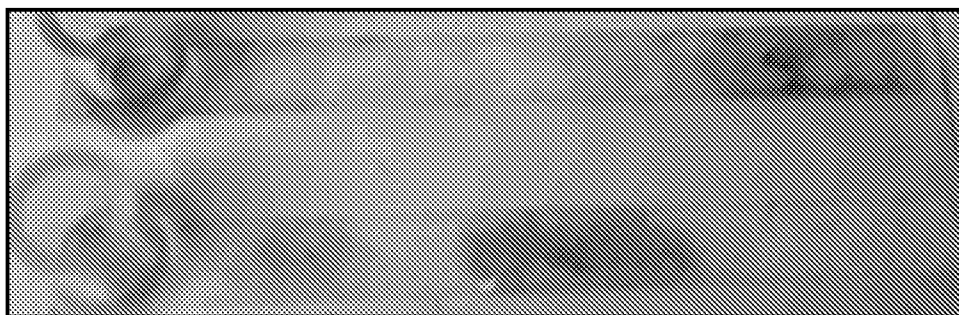


FIG. 61

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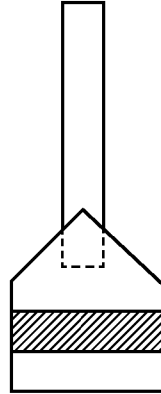


FIG. 62

Without ATPS



FIG. 63A

With ATPS

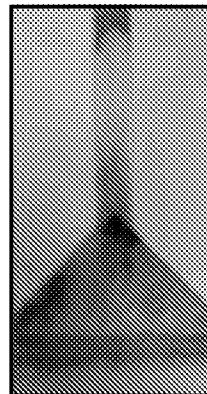


FIG. 63B

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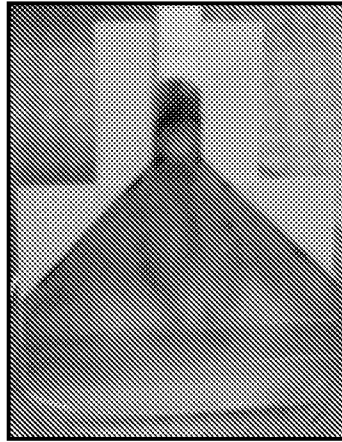


FIG. 64

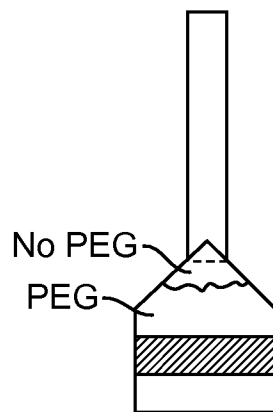


FIG. 65

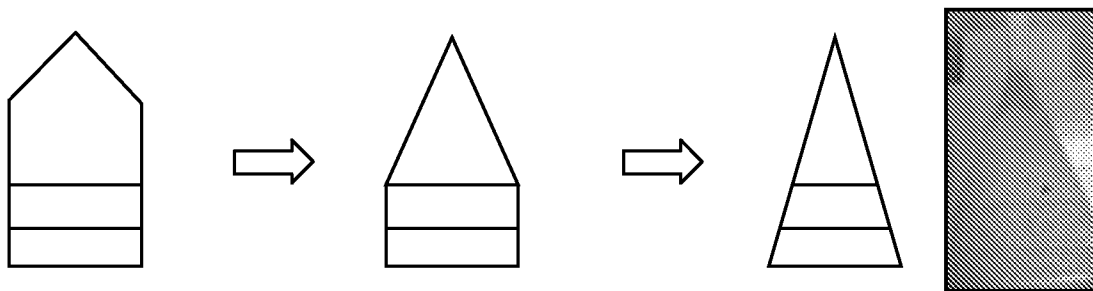


FIG. 66

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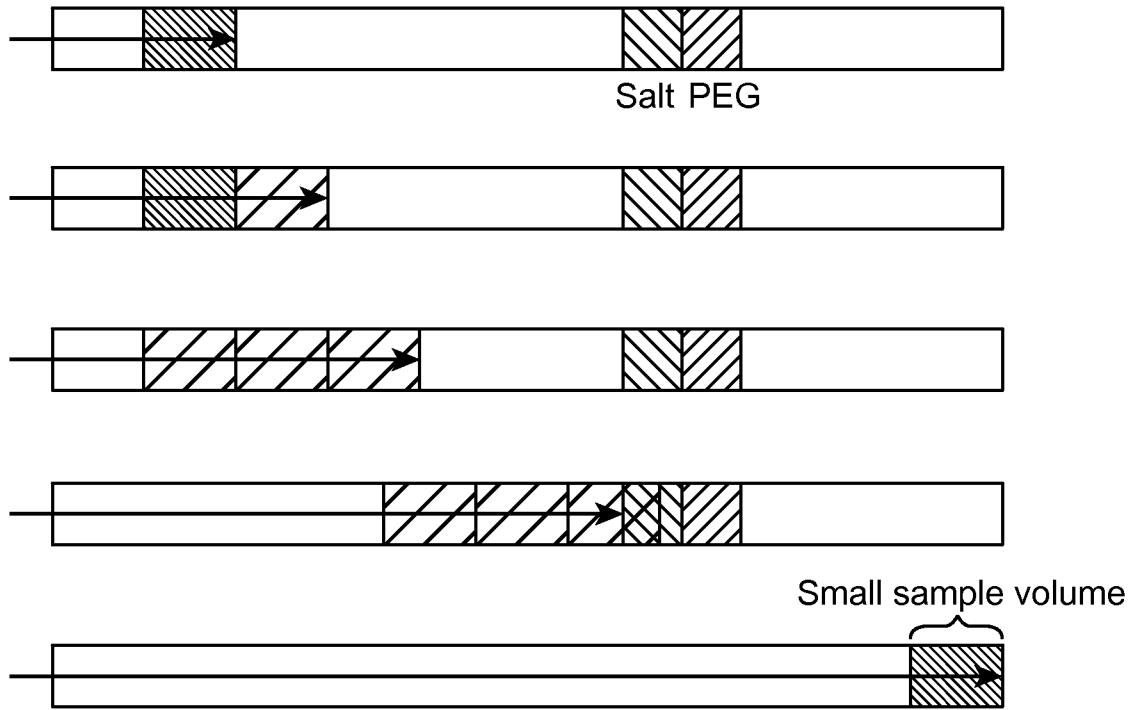


FIG. 67

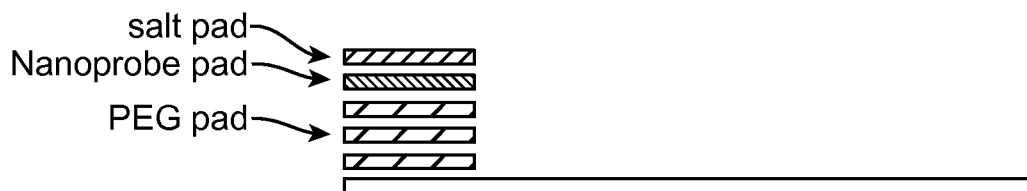


FIG. 68

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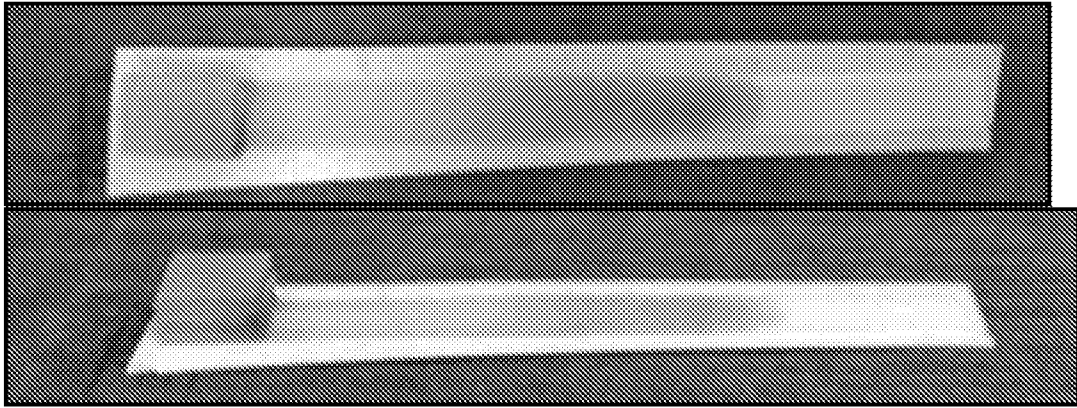


FIG. 69A

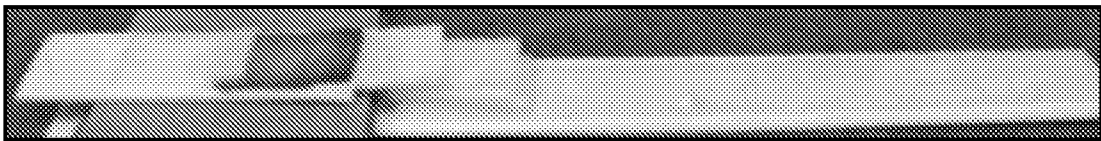


FIG. 69B

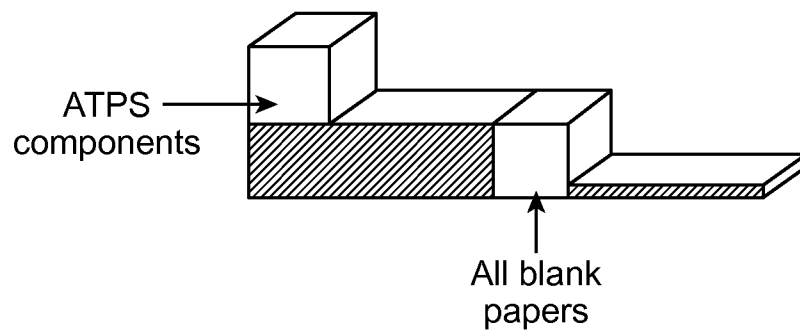


FIG. 70

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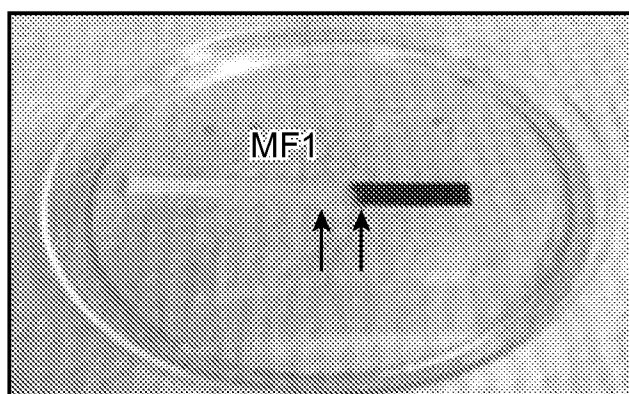


FIG. 71

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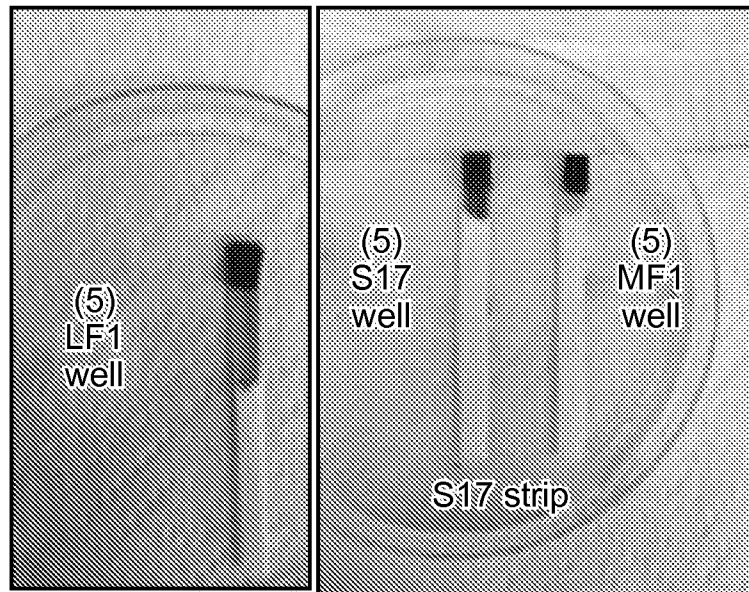
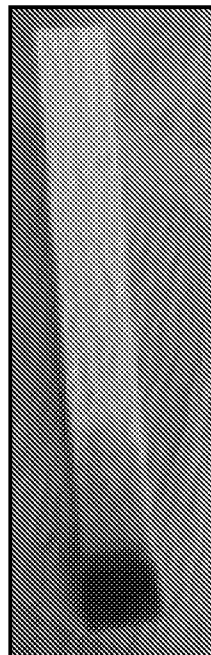
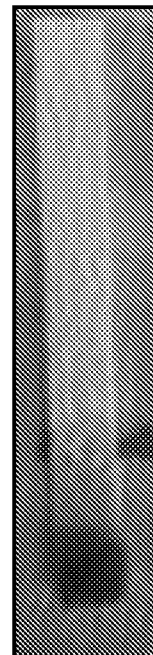


FIG. 72



3 layered well

FIG. 73A



5 layered well

FIG. 73B

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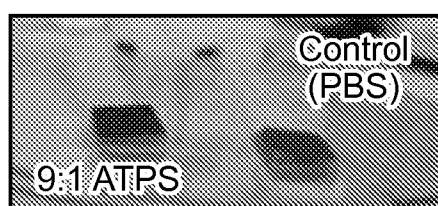


FIG. 74



FIG. 75

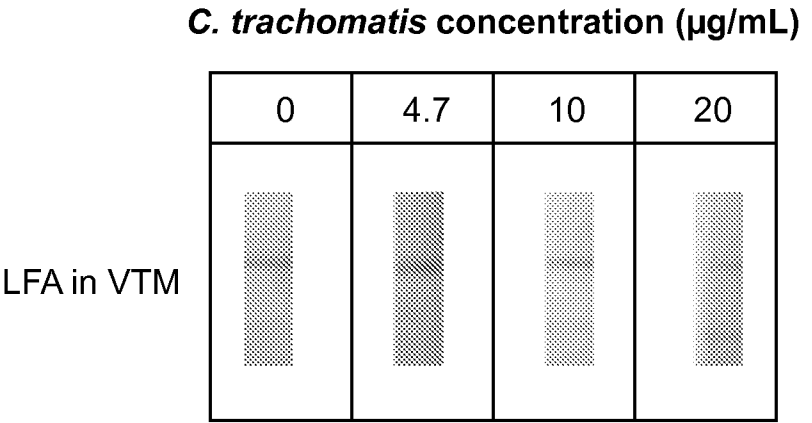


FIG. 76

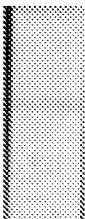
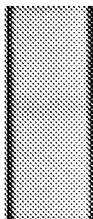
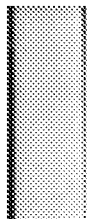
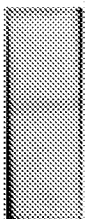
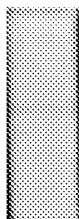
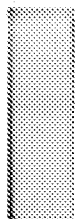
Cells/mL	10 ⁹	10 ⁸	10 ⁷	10 ⁶
No ATPS				
ATPS				

FIG. 77

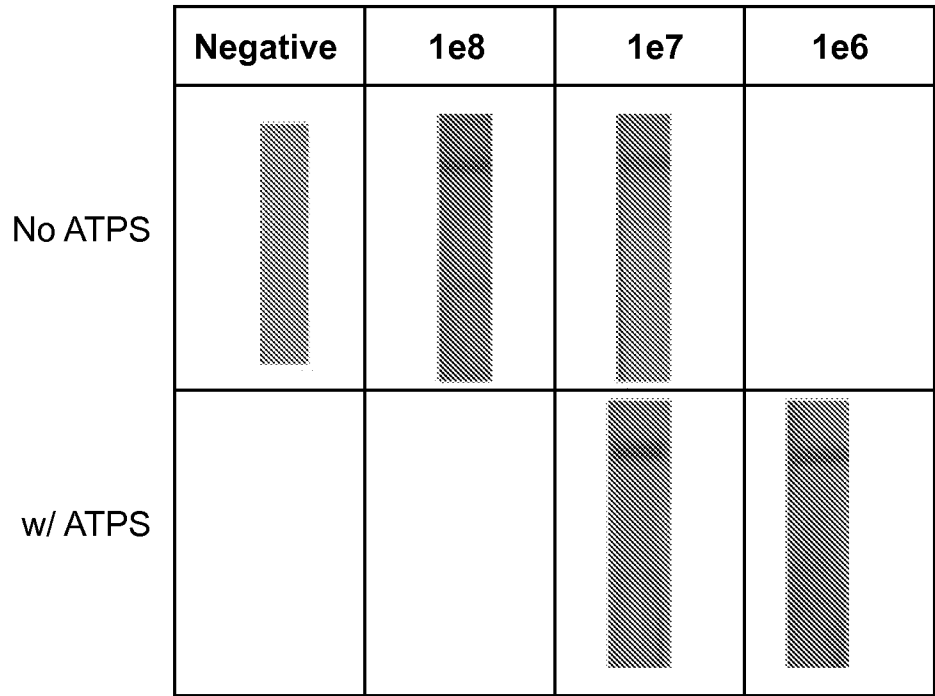


FIG. 78

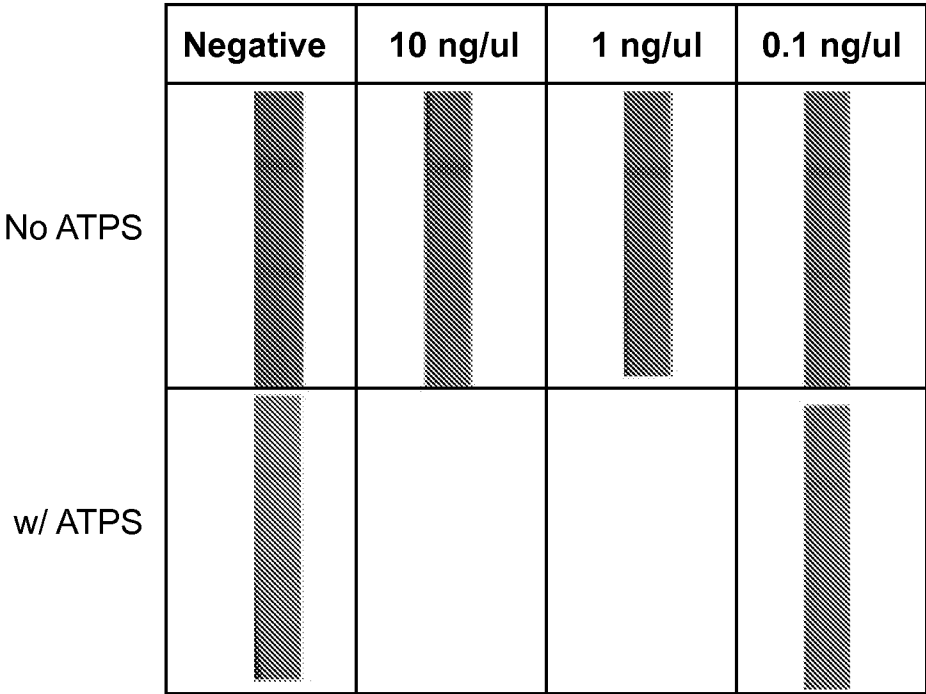
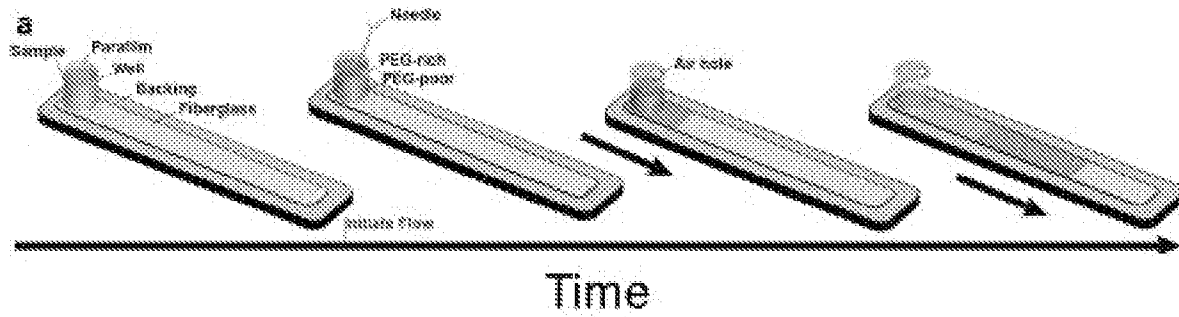
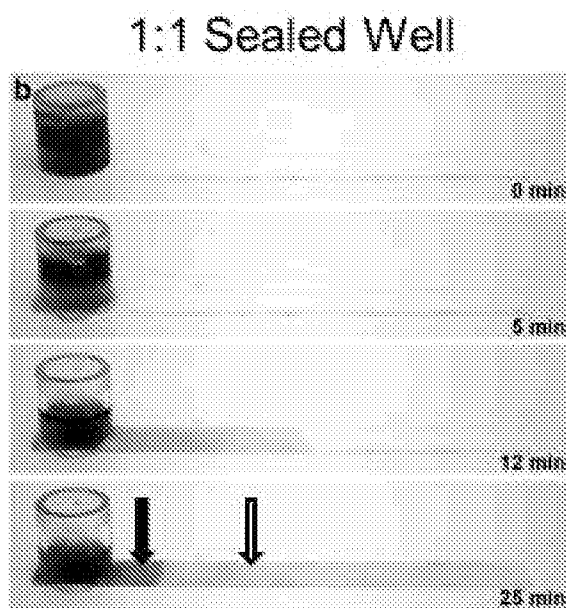


FIG. 79

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**FIG. 80A****FIG. 80B**

9:1 Sealed Well

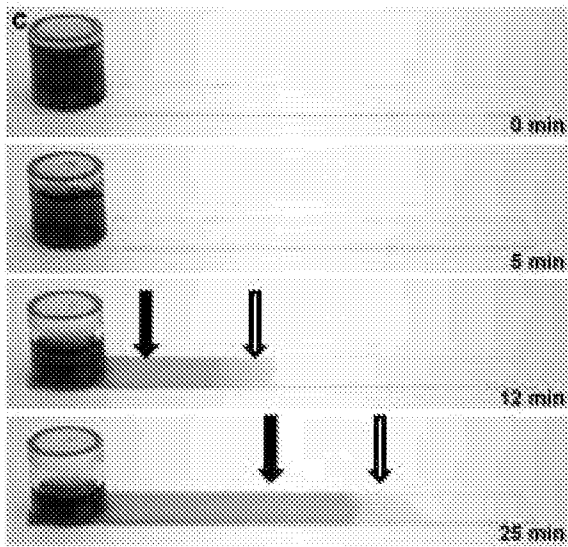


FIG. 80C

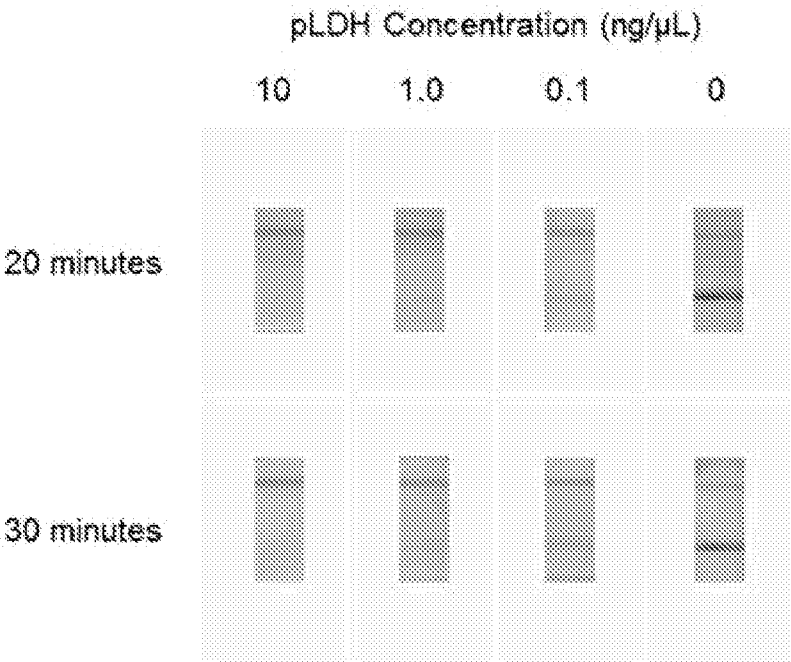


FIG. 81

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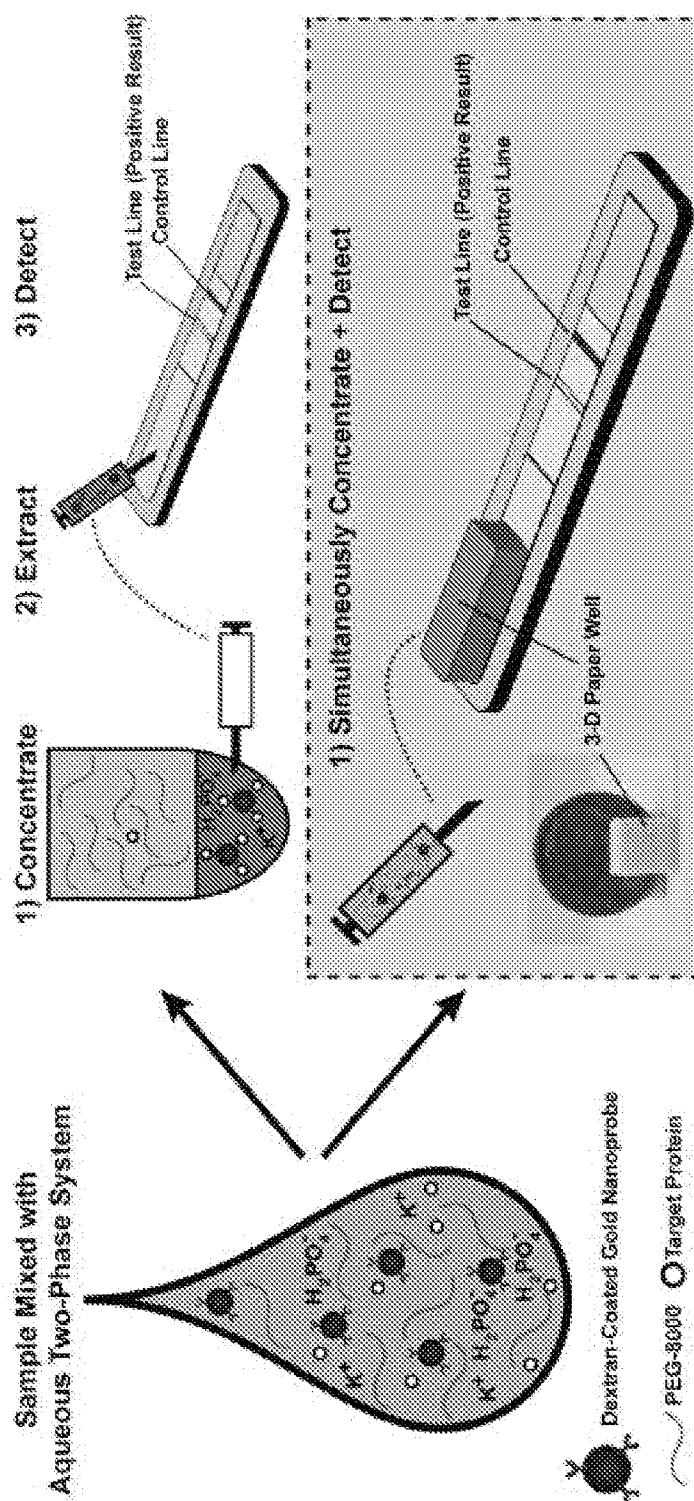


FIG. 82