Supporting Information

Title: CandyCollect: At-home saliva sampling for respiratory pathogen capture

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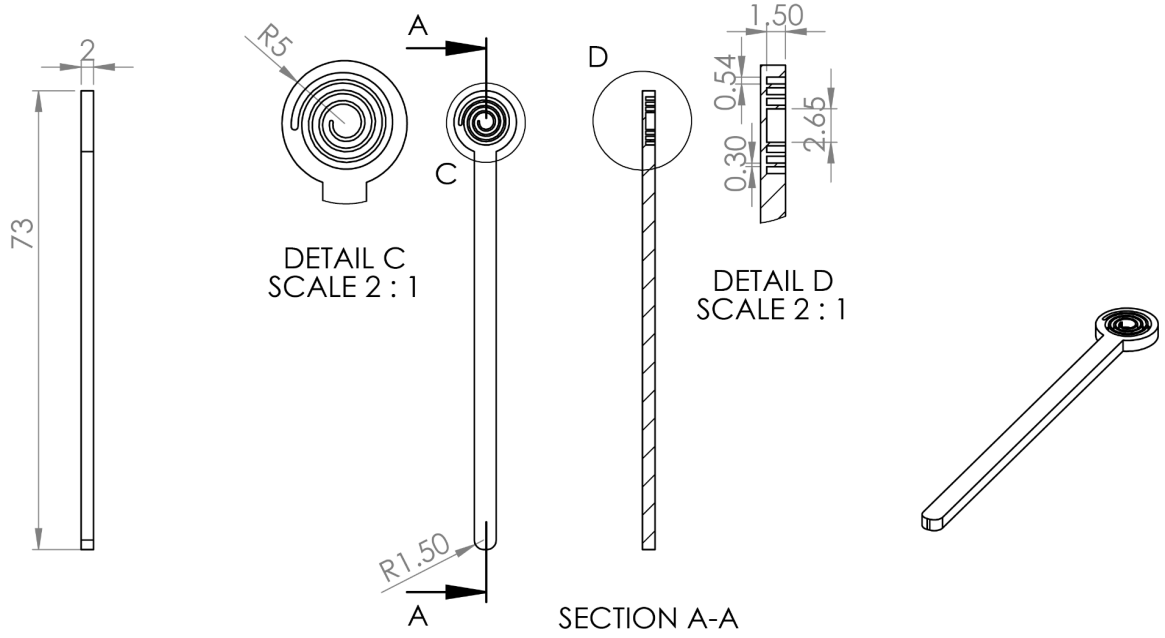

Figure S1. Schematic diagrams illustrating the dimensions, in mm, of the CandyCollect milled stick. CAD file also included.

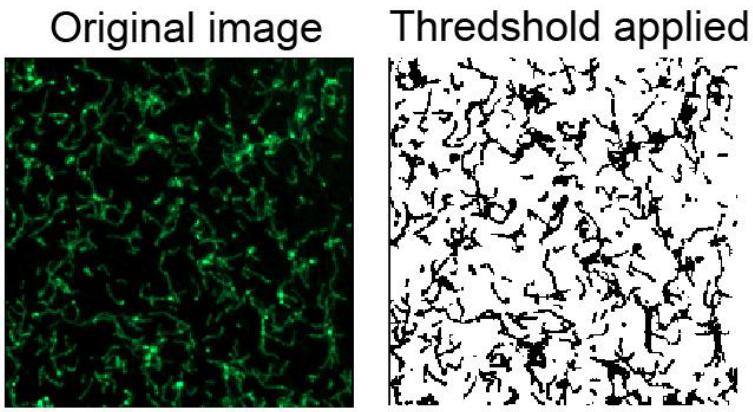

Figure S2. Qualification of integrated density. Image process before and after threshold applied in one given region of interest (ROI).

Table S1. Mass, diameter, thickness, and dissolving time of CandyCollects in Figure 4A.

Lollipop	Mass (g)	Diameter (mm)	Thickness (mm)	Time (min)
A1	0.04	n/a*	n/a	0.75
A2	0.04	n/a	n/a	0.50
A3	0.04	n/a	n/a	0.65
B1	0.08	n/a	n/a	1.03
B2	0.08	n/a	n/a	0.83
B3	0.08	n/a	n/a	0.82
C1	4.70	27.12	4.52	6.67
C2	4.16	27.12	4.52	5.98
C3	4.09	27.12	4.52	5.67
D1	4.06	23.00	6.46	8.33
D2	4.12	23.00	6.46	7.67
D3	4.27	23.00	6.46	7.08
E1	7.44	30.00	7.60	10.28
E2	7.62	30.00	7.60	9.55
E3	6.32	30.00	7.60	9.63
F1	6.92	23.00	12.92	14.32
F2	7.45	23.00	12.92	13.50
F3	7.53	23.00	12.92	15.67

*Note: CandyCollects A1-B3 did not have measurable diameter and thickness because a mold was not used to apply the candy. Instead a small drop of isomalt was applied and allowed to form a thin layer on the stick. The diameter of the round area on the stick is 1 cm and the thickness is 2 mm.

Table S2. Mass, diameter, thickness, and dissolving time of CandyCollects in Figure 4B.

Participant	Mass (g)	Diameter (mm)	Thickness (mm)	Time (min)
1	0.96	16	4	2.08
	1.14	16	4	2.43
	1.07	16	4	2.40
2	0.93	16	4	3.42
	1.12	16	4	3.68
	0.97	16	4	1.97
3	1.02	16	4	4.77
	0.88	16	4	3.80
	1.07	16	4	4.43
4	1.07	16	4	5.28
	0.88	16	4	4.50
	1	16	4	4.22
5	1.06	16	4	2.83
	1.11	16	4	2.58
	1.09	16	4	2.45
6	0.98	16	4	2.72
	1.15	16	4	6.93
	0.97	16	4	4.62
7	1.07	16	4	2.35
	1	16	4	3.02
	1.09	16	4	3.13
8	1.12	16	4	2.50
	1	16	4	1.98
	0.96	16	4	2.08
9	1.13	16	4	2.55

	1.03	16	4	2.27
	0.95	16	4	2.00
10	1.01	16	4	6.27
	0.83	16	4	5.98
	0.96	16	4	5.37
11	0.92	16	4	1.25
	1.04	16	4	1.33
	1.05	16	4	1.57
12	0.99	16	4	2.70
	1.02	16	4	2.53
	0.98	16	4	2.27
13	1.08	16	4	4.33
	0.95	16	4	4.07
	0.96	16	4	4.57
14	0.92	16	4	2.68
	1.01	16	4	2.60
	0.97	16	4	3.03
15	0.97	16	4	6.62
	1.02	16	4	7.70
	0.94	16	4	5.20
16	0.93	16	4	3.18
	0.95	16	4	3.13
	0.95	16	4	3.03
17	1.01	16	4	4.62
	1.04	16	4	4.47
	0.95	16	4	3.63

S. pyogenes conc. (CFU/ml)	Cq*	Mean Cq	DNA content* (ng)	Mean DNA content (ng)
0 (Control)	ND ND ND			
$1x10^3$	ND 38.51 37.58	38.04	ND $3.38\ x10^{-5}$ $6.08\ x10^{-5}$	$4.73x10^{-5}$
$1x10^4$	35.24 34.40 34.64	34.76	$2.66\ x10^{-4}$ $4.50\ x10^{-4}$ $3.88\ x10^{-5}$	$3.68\ x10^{-4}$
$1x10^5$	31.34 31.25 31.12	31.24	$3.10\ x10^{-3}$ $3.28\ x10^{-3}$ $3.57\ x10^{-3}$	$3.32x10^{-3}$
$1x10^7$	24.22 24.32 24.36	24.30	$2.75\ x10^{-1}$ $2.57\ x10^{-1}$ $2.51\ x10^{-1}$	$2.61x10^{-1}$
$1x10^9$	16.44 16.77 16.38	16.53	$3.69\ x10^{1}$ $3.01\ x10^{1}$ $3.84\ x10^{1}$	$3.51x10^{1}$

* The 3 tabulated values are for 3 CandyCollect devices; extracts from each device were measured in duplicate using qPCR, and the tabulated value is the mean of the technical duplicates.

Note: The lowest measurable quantity of DNA is 50 femtogram as determined by qPCR standards"

- **ask xsu7 what to fill in for xxx's.**

Also, it think it is helpful to include the standard curve in the SI

I think the 10^3 only has two dots on your graph, which might be because the third repicate was not detected, that would need to be included in the table as "not detected" and a note that the Cq value was higher than the lowest standard (if that's the case) or just simply not detected (i'm not sure which one it was)

Also, instead of "Mean Cq", I suggest to write "Cq*" and leave the * with a note "The 3 tabulated values are for 3 CandyCollect devices; extracts from each device were measured in duplicate using qPCR, and the tabulated value is the mean of the technical duplicates." Then rename Average Cq to "Mean Cq" and put a note there that that is the mean of 3 devices. And do the same for the other two columns.