Table S1: Combinations of binding buffers and mock lysate buffers tested during the optimization phase of silica-based DNA extraction. Recovery of the size marker is shown in Figure S1. MinElute columns (Qiagen) were used unless indicated otherwise. The default sodium acetate concentration in the binding buffer was 120 mM and the ratio of binding buffer to lysate volume 10:1.

Lane	Binding buffer composition			Mock lysate buffer	Comment
	Salt	Alcohol	NaAc		
1	1 M GuHCl	80% Isopropanol	+	TT	
2	1.7 M GuSCN	70% Isopropanol	+	TT	
3	1.7 M GuSCN	70% Isopropanol	+	0.45 M EDTA	
4	1.7 M GuSCN	80% Isopropanol	+	TT	
5	2 M GuHCl	60% Isopropanol	+	TT	
6	2 M GuHCl	60% Isopropanol	+	0.45 M EDTA	
7	2 M GuHCl	70% Isopropanol	+	TT	
8	2 M GuHCl	70% Isopropanol	+	0.45 M EDTA	
9	2 M GuHCl	70% EtOH	+	TT	
10	2 M GuHCl	70% EtOH	+	0.45 M EDTA	
11	2 M GuSCN	70% Isopropanol	+	TT	
12	2 M GuSCN	70% EtOH	+	TT	
13	2 M GuHCl	75% Isopropanol	+	TT	
14	2 M GuHCl	80% Isopropanol	-	TT	
15	2 M GuHCl	80% EtOH	+	TT	
16	3 M GuHCL	50% Isopropanol	+	TT	
17	3 M GuHCL	60% Isopropanol	+	TT	
18	4 M GuHCl	50% Isopropanol	+	TT	
19	4 M GuHCl	60% Isopropanol	+	TT	
20	5 M GuHCl	40% Isopropanol	+	TT	
21	5 M GuHCl	40% Isopropanol	+	TT	Ratio binding to lysate buffer 20:1
22	5 M GuHCl	40% Isopropanol	+	TT	Ratio binding to lysate buffer 80:1
23	5 M GuHCl	50% EtOH	+	TT	
24	6 M GuHCl	30% Isopropanol	+	TT	
25	6 M GuHCl	35% Isopropanol	+	TT	
26	7 M GuHCl	25% Isopropanol	+	TT	
27	2 M GuHCl	70% Isopropanol	+	TT	
28		70% Isopropanol	+	0.45 M EDTA	
29		60% Isopropanol + 10% EtOH	+	TT	
30		60% Isopropanol + 10% EtOH	+	0.45 M EDTA	
31		35% Isopropanol + 35% EtOH	+	TT	
32		35% Isopropanol + 35% EtOH	+	0.45 M EDTA	
33		10% Isopropanol + 60% EtOH	+	TT	
34		10% Isopropanol + 60% EtOH	+	0.45 M EDTA	
35		70% EtOH	+	TT	
36		70% EtOH	+	0.45 M EDTA	

Lane	Binding buffer composition			Mock lysate buffer	Comment
	Salt	Alcohol	NaAc		
37	PN buffer, Qiagen		-	TT	Qiaquick silica column (Qiagen)
38			-	TT	
39			-	0.5 M EDTA	
40			-	0.4 M EDTA	
41			-	0.3 M EDTA	
42			-	0.2 M EDTA	
43			-	0.1 M EDTA	
44	5 M GuHCl	40% Isopropanol	+	TT	
45	5 M GuHCl	40% Isopropanol	+	TT	Roche silica column
46	5 M GuHCl	40% Isopropanol	+	0.45 M EDTA	
47	5 M GuHCl	40% Isopropanol	+	0.45 M EDTA	Roche silica column
48	1 M NaI		+	TT	
49	1 M NaI		+	0.45 M EDTA	
50	2 M NaI		+	TT	
51	2 M NaI		+	0.45 M EDTA	
52	3 M NaI		+	TT	
53	3 M NaI		+	0.45 M EDTA	
54	4 M NaI		+	TT	
55	4 M NaI		+	0.45 M EDTA	
56	5 M NaI		+	TT	
57	5 M NaI		+	0.45 M EDTA	
58	6 M NaI		+	TT	
59	6 M NaI		+	0.45 M EDTA	
60	8 M NaI		+	TT	
61	8 M NaI		+	0.45 M EDTA	
62	1 M NaI	70% Isopropanol	-	TT	
63	1 M NaI	70% Isopropanol	-	0.225 M EDTA	
64	2 M NaI	10% Isopropanol	+	TT	
65	2 M NaI	10% Isopropanol	+	0.45 M EDTA	
66	2 M NaI	30% Isopropanol	+	TT	
67	2 M NaI	30% Isopropanol	+	0.45 M EDTA	
68	2 M NaI	50% Isopropanol	+	TT	
69	2 M NaI	50% Isopropanol	+	0.45 M EDTA	
70	2 M NaI	60% Isopropanol	+	TT	
71	2 M NaI	60% Isopropanol	+	0.45 M EDTA	
72	2 M NaI	70% Isopropanol	-	TT	
73	2 M NaI	70% Isopropanol	-	0.225 M EDTA	
74	3 M NaI	50% Isopropanol	-	0.225 M EDTA	
75	3 M NaI	50% Isopropanol	-	TT	
76	3 M NaI	60% Isopropanol	-	0.225 M EDTA	
77	3 M NaI	60% Isopropanol	-	TT	
78	3 M NaI	70% Isopropanol	-	0.225 M EDTA	
79	3 M NaI	70% Isopropanol	-	TT	
80	4 M NaI	50% Isopropanol	+	TT	
81	4 M NaI	50% Isopropanol	+	0.45 M EDTA	
82	5 M NaI	40% Isopropanol	-	TT	
83	5 M NaI	40% Isopropanol	-	0.225 M EDTA	
84	1 M NaI		-	TT	

Lane	Binding buffer composition			Mock lysate buffer	Comment
	Salt	Alcohol	NaAc		
85	1 M NaI		-	0.45 M EDTA	
86	1 M NaI		+	TT	4.4 mM NaAc
87	1 M NaI		+	0.45 M EDTA	4.4 mM NaAc
88	1 M NaI		+	TT	21.9 mM NaAc
89	1 M NaI		+	0.45 M EDTA	21.9 mM NaAc
90	1 M NaI		+	TT	43.8 mM NaAc
91	1 M NaI		+	0.45 M EDTA	43.8 mM NaAc
92	1 M NaI		+	TT	87.6 mM NaAc
93	1 M NaI		+	0.45 M EDTA	87.6 mM NaAc
94	1 M NaI		+	TT	131.4 mM NaAc
95	1 M NaI		+	0.45 M EDTA	131.4 mM NaAc
96	6 M NaI		-	TT	
97	6 M NaI		-	0.45 M EDTA	
98	6 M NaI		+	TT	4.4 mM NaAc
99	6 M NaI		+	0.45 M EDTA	4.4 mM NaAc
100	6 M NaI		+	TT	21.9 mM NaAc
101	6 M NaI		+	0.45 M EDTA	21.9 mM NaAc
102	6 M NaI		+	TT	43.8 mM NaAc
103	6 M NaI		+	0.45 M EDTA	43.8 mM NaAc
104	6 M NaI		+	TT	87.6 mM NaAc
105	6 M NaI		+	0.45 M EDTA	87.6 mM NaAc
106	6 M NaI		+	TT	131.4 mM NaAc
107	6 M NaI		+	0.45 M EDTA	131.4 mM NaAc
108	2 M $MgCl_2$		+	TT	
109	2 M $MgCl_2$		+	0.45 M EDTA	
110	2 M $MgCl_2$	50% Isopropanol	+	TT	
111	2 M $MgCl_2$	50% Isopropanol	+	0.45 M EDTA	
112	2 M $MgCl_2$	60% Isopropanol	-	TT	
113	2 M $MgCl_2$	60% Isopropanol	-	0.45 M EDTA	
114	5 M $MgCl_2$		+	TT	
115	5 M $MgCl_2$		+	0.45 M EDTA	
116	5 M GuHCl	40% Isopropanol	+	TT	
117	5 M GuHCl	40% Isopropanol	+	0.225 M EDTA	
118	2 M GuHCl	70% Isopropanol	-	TT	
119	2 M GuHCl	70% Isopropanol	-	0.225 M EDTA	
120	2 M GuHCl	70% Isopropanol	-	TT	Wash: 5 M GuHCl, 40% isopropanol, 120 mM NaAc
121	2 M GuHCl	70% Isopropanol	-	0.225 M EDTA	
122	2 M GuHCl	70% Isopropanol	-	TT	Roche silica column
123	2 M GuHCl	70% Isopropanol	-	0.225 M EDTA	Roche silica column

GuHCl – guanidine hydrochloride, GuSCN – guanidine thiocyanate, EtOH – ethanol, NaAc – sodium acetate, TT – Tris-Tween-buffer (10 mM Tris-HCl, pH8, 0.05% Tween-20), NaI – sodium iodide, $MgCl_2$ – magnesium chloride, Roche silica columns were from the High Pure Viral Nucleic Acid Large Volume Kit (Roche)