

Supplementary information 1: List of Viral species and serotypes, serogroups or genotypes identified in each building type. Mean ID%: average percentage identity of alignments; Mean CV: the percent of the reference accession that is covered by at least one contig; Coverage depth: indicates the average read depth across the length of the accession. Metagenomic metrics are mean values obtained at the different samples analysed per each building type and at the WWTP.

Sampling site	Family	Viral specie	metagenomics metrics			Serotypes, serogroups or genotypes identified	
			Mean ID%	Mean CV%	Coverage depth		
School	<i>Adenoviridae</i>	<i>Human mastadenovirus F</i>	99.9	7	2.2x	AdV-40, AdV-41	
	<i>Astroviridae</i>	<i>Astrovirus MLB1</i>	97.5	5.9	0.33x		
		<i>Mamastrovirus 1</i>	99.35	97.5	2490x	HAstV-1, HAstV-3	
		<i>Mamastrovirus 3</i>	98.9	-	-		
		<i>Unclassified Mamastrovirus</i>	93.1	-	-		
	<i>Caliciviridae</i>	<i>Human salivirus</i>	95.8	-	-		
		<i>Salivirus FHB</i>	98	-	-		
		<i>Sapporo virus</i>	97.55	25.6	22.5x	SapV-GI, -GII, -GIV	
		<i>Unclassified Sapovirus</i>	97.8	-	-		
	<i>Parvoviridae</i>	<i>Human bocavirus</i>	99.8	52.6	96.1x		
	<i>Picornaviridae</i>	<i>Parechovirus A</i>	91.9	9.3	2.6x		
		<i>Aichivirus A</i>	97.3	-	-		
		<i>Cardiovirus B</i>	93	4.1	0.24x		
		<i>Enterovirus C</i>	93.2	4.8	0.44x		
<i>Norwalk virus</i>		99.7	7.3	0.69x	NoVGII.17		
<i>Polyomaviridae</i>	<i>Human polyomavirus 1</i>	99.9	59.6	178.2x			
	<i>Human polyomavirus 2</i>	99.4	-	-			
University	<i>Adenoviridae</i>	<i>Human mastadenovirus F</i>	99.93	4.3	0.31x		
	<i>Astroviridae</i>	<i>Mamastrovirus 1</i>	98	5.4	0.48x	HAstV-1, HAstV-3	
	<i>Caliciviridae</i>	<i>Human salivirus</i>	95.6	25	3.9x		
		<i>Norwalk virus</i>	99.7	23.6	3.5x		
		<i>Salivirus A</i>	94.1	-	-		
		<i>Salivirus FHB</i>	96.8	45	52x		
		<i>Sapporo virus</i>	96.4	5.6	0.72x		
	<i>Papillomaviridae</i>	<i>Alphapapillomavirus 2</i>	99.1	5.2	1.1x	HPV-28	
		<i>Betapapillomavirus 2</i>	99.3	4.9	0.32x	HPV-9, HPV-110	
		<i>Gammapapillomavirus 7</i>	98.6	28	2.2x	HPV-149	
	<i>Parvoviridae</i>	<i>Human bocavirus</i>	99.3	10.9	4x		
	<i>Picornaviridae</i>	<i>Cardiovirus B</i>	92.35	-	-		
		<i>Enterovirus B</i>	94.6	-	-		
		<i>Human cosavirus SH4</i>	92.8	-	-		
<i>Polyomaviridae</i>	<i>Human polyomavirus 1</i>	99.8	25	5.4x			
	<i>Human polyomavirus 2</i>	99.9	34.8	20x			
Nursing home	<i>Astroviridae</i>	<i>Mamastrovirus 1</i>	99.5	-	-		
	<i>Herpesviridae</i>	<i>Cercopithecine betaherpesvirus 5</i>	97.5	-	-		
		<i>Alphapapillomavirus 7</i>	99.9	-	-	HPV-70	
	<i>Papillomaviridae</i>	<i>Betapapillomavirus 1</i>	98.8	3.1	0.39x	HPV-105	
		<i>Betapapillomavirus 2</i>	99.3	-	-	HPV-22, HPV-100	
		<i>Betapapillomavirus 3</i>	96.6	-	-	HPV-75	
	<i>Picornaviridae</i>	<i>Cardiovirus B</i>	94.6	7.5	1x		
		<i>Enterovirus C</i>	94.2	39	6.5x	Coxsackie-A22, -A1	
	<i>Polyomaviridae</i>	<i>Human polyomavirus 1</i>	98.8	-	-		
		<i>Human polyomavirus 2</i>	99.5	9.5	1.6x		
<i>Human polyomavirus 5</i>		99.8	8.9	0.75x			
WWTP	<i>Adenoviridae</i>	<i>Human mastadenovirus A</i>	99.7	-	-		
		<i>Human mastadenovirus B</i>	99.7	-	-	AdV-7, -21 -B3	
		<i>Human mastadenovirus F</i>	98.1	35.1	5.7x		
	<i>Astroviridae</i>	<i>Astrovirus MLB1</i>	96.8	15.7	2x		
		<i>Mamastrovirus 1</i>	98.6	88.1	182.8x	HAstV-1, HAstV-3, HAstV-4	
		<i>Mamastrovirus 6</i>	98.2	-	-		
		<i>Mamastrovirus 8</i>	96.7	5.2	0.2x		
		<i>HMO Astrovirus A</i>	93.6	13.8	2.9x		
	<i>Caliciviridae</i>	<i>Human salivirus</i>	97.1	-	-		
		<i>Norwalk virus</i>	99.7	44.6	1.8x	NV-GI.P10, NV-GII.P7	
		<i>Salivirus A</i>	96.05	-	-		
		<i>Salivirus FHB</i>	93.5	21	2.1x		
		<i>Sapporo virus</i>	99.3	63.3	5.1x		
	<i>Coronaviridae</i>	<i>SARS-CoV-2</i>	96.2	-	-		
		<i>Human coronavirus HKU1</i>	100	-	-		
	<i>Papillomaviridae</i>	<i>Alphapapillomavirus 14</i>	99.9	-	-	HPV-90	
		<i>Betapapillomavirus 1</i>	97.1	14.2	2x	HPV-21, HPV-36	
		<i>Betapapillomavirus 2</i>	100	8.8	0.8x	HVP-110	
		<i>Betapapillomavirus 3</i>	97.9	-	-	HPV-76	
		<i>Betapapillomavirus 4</i>	97.2	-	-	HPV-92	
		<i>Gammapapillomavirus 1</i>	100	-	-	HPV-65	
		<i>Gammapapillomavirus 3</i>	96.9	-	-	HPV-50	
		<i>Gammapapillomavirus 10</i>	100	3.1	0.35x	HPV-133	
		<i>Gammapapillomavirus 11</i>	95.3	-	-	HPV-169	
		<i>Gammapapillomavirus 19</i>	94.3	4.8	0.29x	HPV-169	
	<i>Parvoviridae</i>	<i>Human bocavirus</i>	99.8	48.4	85.9x		
		<i>Picornaviridae</i>	<i>Aichivirus A</i>	98	16.3	3.8x	
			<i>Aichivirus E</i>	88.5	-	-	
			<i>Cardiovirus B</i>	95.65	-	-	
			<i>Cardiovirus C</i>	93.6	7.3	0.77x	
<i>Cosavirus A</i>			93.5	6	0.49x		
<i>Enterovirus B</i>			93.7	3.5	0.21x		
<i>Enterovirus C</i>			91.5	6.7	1.2x		
<i>Hepatovirus A</i>			98.5	8.4	2.2x	Coxsackie-A19	
<i>Human cosavirus</i>			94.1	-	-		
<i>Human enterovirus</i>	94.2		-	-			
<i>Polyomaviridae</i>	<i>Parechovirus A</i>	97.2	-	-			
	<i>Rhinovirus B</i>	97.6	-	-			
	<i>Rosavirus B</i>	98.9	3	0.1x			
	<i>Human polyomavirus 1</i>	97.4	55.6	28.4x			
	<i>Human polyomavirus 2</i>	99.8	26.5	6.1x			
<i>Human polyomavirus 5</i>	99.8	9.7	2.6x				