Supplementary Table S1. Assay-specific reaction, cycling, control, and analysis parameters

Assay	Final reaction volume	Template volume	Amplification programme	Fluorescence channels/acquisition	Official runtime
Rotavirus A/B/C	25 µL	5 µL	Reverse transcription (1 cycle of 50^0C for 10 min), followed by 95°C for 5 min (1 cycle); 95°C for 10 s; 58°C for 30 s with fluorescence acquisition (45 cycles)	Acquire fluorescence at the 58°C annealing/extension step. Channels: FAM (Rotavirus B), VIC (Rotavirus A), ROX (Rotavirus C), Cy5 (Internal Control)	79 min
Allfastra SARS-CoV-2/FluA/FluB/RSV	25 µL	5 µL	Reverse transcription (95°C for 2 min, 1 cycle) initial denaturation: 94°C for 1 min, 1 cycle; amplification: 63°C for 1 s and 94°C for 10 s, 41 cycles. Fluorescence is acquired during the annealing/extension step.	FAM, VIC, ROX and Cy5. For the SARS-CoV-2 reaction: FAM–ORF1ab, VIC–E gene, ROX–N gene, Cy5–internal control. For the FluA/FluB/RSV reaction: FAM–FluA, VIC–FluB, ROX–RSV, Cy5–internal control.	48 min
Enterovirus	25 µL	5 µL	Reverse transcription (1 cycle of 50^0C for 30 min), followed by 95°C for 5 min (1 cycle); 95°C for 10 s; 55°C for 40 s with fluorescence acquisition (45 cycles).	Acquire fluorescence at the 55°C annealing/extension step. Channels: FAM (Enterovirus), VIC (Internal Control).	115 min
Monkeypox Virus	25 µL	5 µL	UDG enzyme processing at 37°C for 2 min; initial denaturation at 95°C for 5 min; 45 cycles of 95°C for 10 s and 58°C for 30 s.	Fluorescence acquisition during the 58°C annealing/extension step.	62 min
Salmonella & Shigella	25 µL	5 µL	95°C for 10 min (1 cycle); 95°C for	Acquire fluorescence at the	86 min

Assay	Final reaction volume	Template volume	Amplification programme	Fluorescence channels/acquisition	Official runtime
			10 s; 55°C for 40 s with fluorescence acquisition (40 cycles).	55°C annealing/extension step. Channels: FAM (Salmonella), VIC (Shigella), Cy5 (Internal Control).	
Vibrio Cholerae	25 µL	5 µL	95°C for 5 min (1 cycle); 95°C for 10 s; 58°C for 30 s with fluorescence acquisition (40 cycles).	Acquire fluorescence at the 58°C annealing/extension step. Channels: FAM (*V. cholerae* O1), VIC (*V. cholerae* O139), ROX (Non-O1/Non-O139 *V. cholerae*), Cy5 (Internal Control).	62 min
Clostridioides difficile	25 µL	5 µL	95°C for 5 min (1 cycle); 95°C for 10 s; 58°C for 30 s with fluorescence acquisition (40 cycles).	Acquire fluorescence at the 58°C annealing/extension step. Channels: FAM (*C. difficile*), VIC (Internal Control).	62 min
Enteric Adenovirus	25 µL	5 µL	95°C for 5 min (1 cycle); 95°C for 10 s; 58°C for 30 s with fluorescence acquisition (45 cycles)	Acquire fluorescence at the 58°C annealing/extension step. Channels: FAM (Enteric Adenovirus), VIC (Internal Control).	60 min