

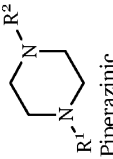
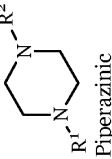
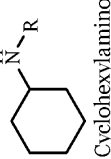
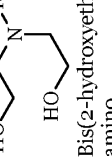
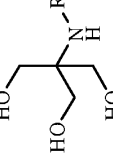
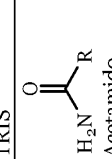
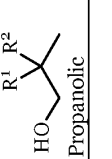
N-substituted aminosulphonic acid Good's buffers					
Family	MES R = -CH ₂ CH ₂ -SO ₃ H	MOPS R = -CH ₂ CH ₂ CH ₂ -SO ₃ H	MOPSO R = -CH ₂ -CH(OH)-CH ₂ -SO ₃ H	MOBS R = -CH ₂ CH ₂ CH ₂ CH ₂ -SO ₃ H	
Morpholinic 	PIPES R ¹ = R ² = -CH ₂ CH ₂ -SO ₃ H		POPISO R ¹ = R ² = -CH ₂ -CH(OH)-CH ₂ -SO ₃ H		
Piperazinic 	HEPPES R ¹ = -CH ₂ CH ₂ OH R ² = -CH ₂ CH ₂ -SO ₃ H	HEPPS / EPPS R ¹ = -CH ₂ CH ₂ OH R ² = -CH ₂ CH ₂ CH ₂ -SO ₃ H	HEPPSO R ¹ = -CH ₂ CH ₂ OH R ² = -CH ₂ -CH(OH)-CH ₂ -SO ₃ H	HEPBS R ¹ = -CH ₂ CH ₂ OH R ² = -CH ₂ CH ₂ CH ₂ CH ₂ -SO ₃ H	
Piperazinic 	CHES R = -CH ₂ CH ₂ -SO ₃ H	CAPS R = -CH ₂ CH ₂ CH ₂ -SO ₃ H	CAPSO R = -CH ₂ -CH(OH)-CH ₂ -SO ₃ H	CABS R = -CH ₂ CH ₂ CH ₂ CH ₂ -SO ₃ H	
Cyclohexylamino 	BES R = -CH ₂ CH ₂ -SO ₃ H		DIPSO R = -CH ₂ -CH(OH)-CH ₂ -SO ₃ H		
Bis(2-hydroxyethyl)amino 	TES R = -CH ₂ CH ₂ -SO ₃ H	TAPS R = -CH ₂ CH ₂ CH ₂ -SO ₃ H	TAPSO R = -CH ₂ -CH(OH)-CH ₂ -SO ₃ H	TABS R = -CH ₂ CH ₂ CH ₂ CH ₂ -SO ₃ H	
TRIS 	ACES R = -CH ₂ NH-CH ₂ CH ₂ -SO ₃ H				
Acetamido 					
Propanolic 			AMPSO R ¹ = -CH ₃ R ² = -NH-CH ₂ -CH(OH)-CH ₂ -SO ₃ H		

Figure 1

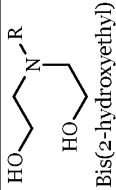
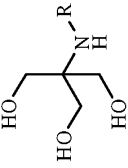
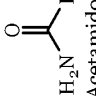
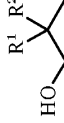
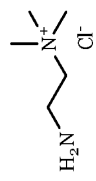
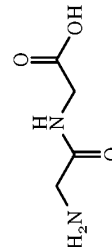
Non-sulphonic acid Good's buffers			
Family	BIS-TRIS methane (BTM) R = -C(CH ₂ OH) ₃	TEA R = -CH ₂ CH ₂ OH	Bicine R = -CH ₂ CO ₂ H
 Bis(2-hydroxyethyl)amino			
 TRIS	TRIS R = H	Tricine R = -CH ₂ CO ₂ H	BIS-TRIS propane (BTP) R = -CH ₂ CH ₂ CH ₂ -NH-C(CH ₂ OH) ₃
 Acetamido	ADA R = -CH ₂ N(CH ₂ CO ₂ H) ₂	Glycinamide R = -CH ₂ NH ₂	(Acetamido)glycine R = -CH ₂ NH-CH ₂ CO ₂ H
 Propanolic	AMP R ¹ = -CH ₃ R ² = -NH ₂	AMPD R ¹ = -CH ₂ OH R ² = -NH ₂	
Others	Cholamine chloride 	Glycylglycine 	

Figure 1 (continued)

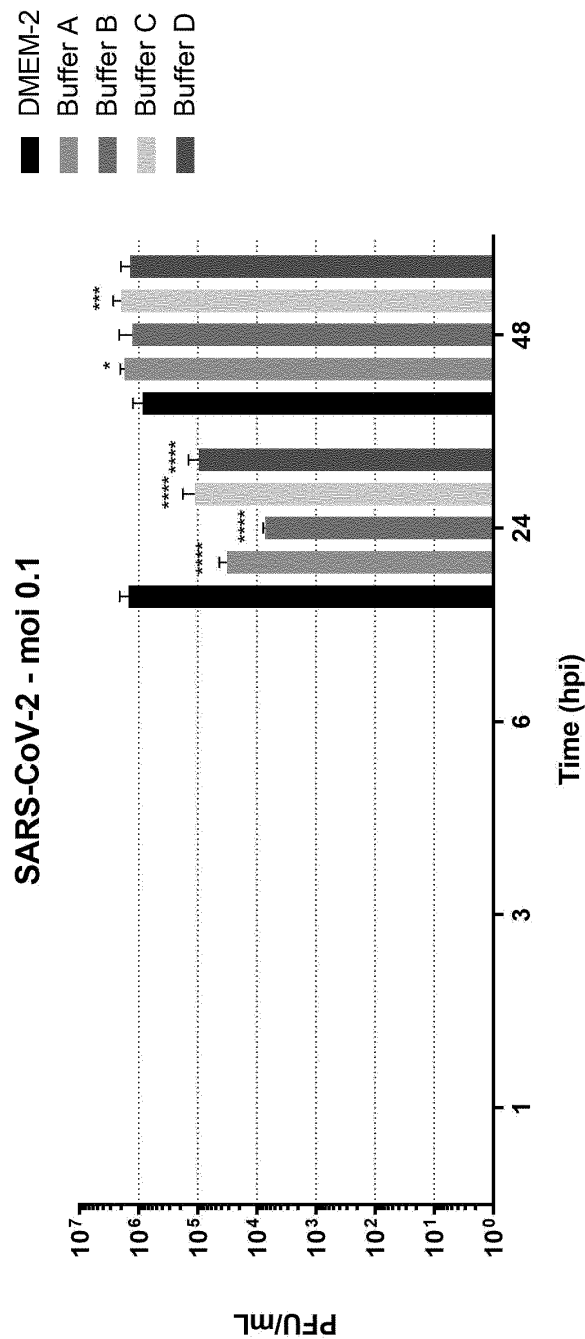


Figure 2

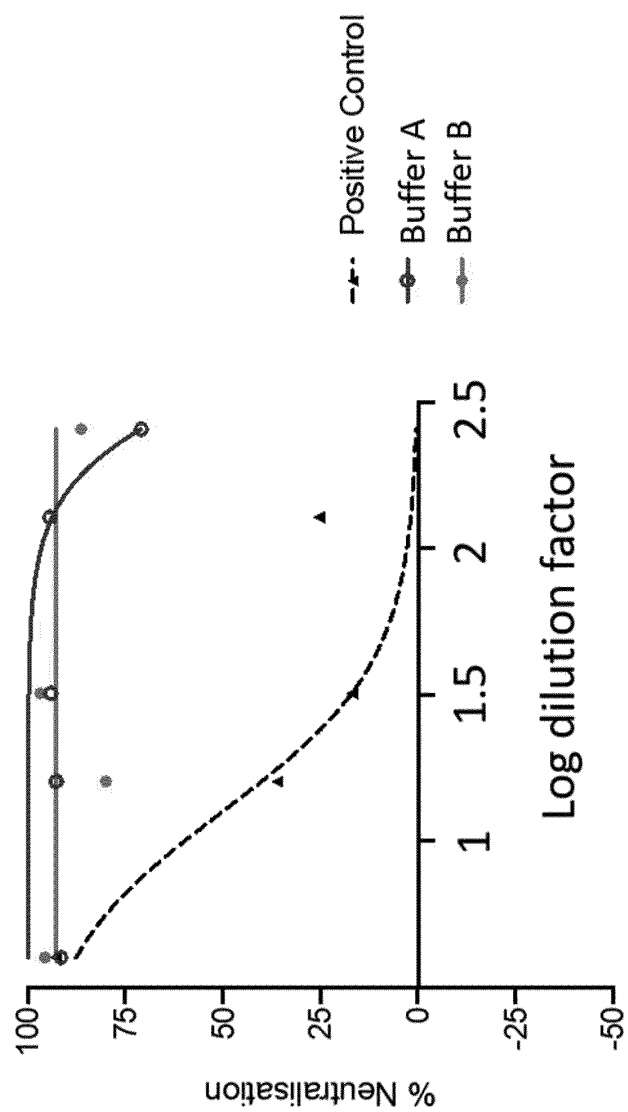


Figure 3