Supplementary Table 1. Population estimates for the final pharmacokinetic model

Apixaban

Parameter	Estimate	SE/Mean	95% confidential intervals
Ka (1/hr)	0.420 (fixed)		
CL (L/hr) = θ_1 x (CCR/70)$^{\theta 2}$			
θ_1	4.74	2.84 %	4.43 – 5.01
θ_2	0.700 (fixed)		
V (L)	30.0	7.99 %	28.1 – 37.5
Inter-individual variability (CV%)			
ωCL	26.6 % (fixed)		
ωV	56.6 % (fixed)		
Residual variability (σ, CV%)	34.0 % (fixed)		

Ka is absorption rate constant. CL is apparent oral clearance. V is apparent volume distribution. CCR is creatinine clearance. θ_1 is population mean parameters. θ_2 was set to the literature value [14]. ωCL, ωV and σ values denote the inter-individual variabilities for CL, V and the intra-individual variability, respectively, which were set to the literature value [14]. CV% is the square root of the variance.

Rivaroxaban

Parameter	Estimate	SE/Mean	95% confidential intervals
Ka (1/hr)	0.617 (fixed)		
CL (L/hr) = θ_1 x (CCR/67.11)$^{\theta 2}$			
θ_1	5.59	4.43 %	5.25 - 6.24
θ_2	0.159 (fixed)		
V (L)	50.9	10.1 %	46.7 - 67.4
Inter-individual variability (CV%)			
ωKa	58.2 % (fixed)		
ωCL	41.0 % (fixed)		
ωV	63.6 % (fixed)		
ωF1	37.7 % (fixed)		

Residual variability (σ, CV%)	13.1 % (fixed)

Ka and θ_2 were set to the literature value [8]. ωKa, ωCL, ωV, ωF1 and σ values denote the inter-individual variabilities for Ka, CL, V, relative bioavailability F1 and the intra-individual variability, respectively, which were set to the literature value [8].

Edoxaban

Parameter	Estimate	SE/Mean	95% confidential intervals
Ka (1/hr)	2.39 (fixed)		
CL (L/hr) = (θ_1 + θ_2 x CCR) x (BW/70)$^{0.7}$			
θ_1	15.6	10.9 %	12.3 – 19.3
θ_2 (if CCR ≤ 90)	0.162 (fixed)		
θ_2 (if CCR > 90)	0.099 (fixed)		
Vc (L) = θ_3 x (BW/70)			
θ_3	631.4	12.8 %	570.0 – 957.1
Q (L/hr) = θ_4 x (BW/70)$^{0.75}$			
θ_4	3.31 (fixed)		
Vp (L) = θ_5 x (BW/70)			
θ_5	92.1 (fixed)		
Inter-individual variability (CV%)			
ωCL	18.1 % (fixed)		
ωVp	55.4 % (fixed)		
Residual variability (σ, CV%)	31.2 % (fixed)		

Ka, θ_2, θ_4, and θ_5 were set to the literature value [15]. ωCL, ωV and σ values denote the inter-individual variabilities for CL, V and the intra-individual variability, respectively, which were set to the literature value [15].