TABLE I. The Society of Rheology nomenclature for steady simple shear.

Quantity	Symbol	S.I. units	CGS units
Direction of flow	x_1 or x	m	cm
Direction of velocity gradient	x_2 or y	m	cm
Neutral direction	x_3 or z	m	cm
Shear stress	σ	Pa	dyn cm^{-2}
Shear strain	γ	–	–
Shear rate	$\dot{\gamma}$	s^{-1}	s^{-1}
Viscosity	η	Pa s	P (poise)
First normal stress function	N_1	Pa	dyn cm^{-2}
Second normal stress function	N_2	Pa	dyn cm^{-2}
First normal stress coefficient	Ψ_1	Pa s^2	dyn s^2 cm^{-2}
Second normal stress coefficient	Ψ_2	Pa s^2	dyn s^2 cm^{-2}
Limiting viscosity at zero shear rate	η_0	Pa s	P
Limiting viscosity at infinite shear rate	η_∞	Pa s	P
Viscosity of solvent or of continuous medium	η_s	Pa s	P
Relative viscosity (η/η_s)	η_r	–	–
Specific viscosity ($\eta_r - 1$)	η_{sp}	–	–
Intrinsic viscosity	$[\eta]$	m^3 kg^{-1}	cm^3 g^{-1}

TABLE II. TheSociety of Rheology nomenclature for linear viscoelasticity.

Quantity	Symbol	S.I. units
Simple shear		
Shear strain	γ	–
Shear modulus (modulus of rigidity)	G	Pa
Shear relaxation modulus	$G(t)$	Pa
Shear compliance	J	Pa^{-1}
Shear creep compliance	$J(t)$	Pa^{-1}
Equilibrium shear compliance	J_e	Pa^{-1}
Steady-state shear compliance	J_s^0	Pa^{-1}
Complex viscosity	$\eta^*(\omega)$	Pa s
Dynamic viscosity	$\eta'(\omega)$	Pa s
Out-of-phase component of η^*	$\eta''(\omega)$	Pa s
Complex shear modulus	$G^*(\omega)$	Pa
Shear storage modulus	$G'(\omega)$	Pa
Shear loss modulus	$G''(\omega)$	Pa
Complex shear compliance	$J^*(\omega)$	Pa^{-1}
Shear storage compliance	$J'(\omega)$	Pa^{-1}
Shear loss compliance	$J''(\omega)$	Pa^{-1}
Tensile extension		
Strain (True strain)	ε	–
Young's modulus	E	Pa
Tensile relaxation modulus	$E(t)$	Pa
Tensile compliance	D	Pa^{-1}
Tensile creep compliance	$D(t)$	Pa^{-1}

TABLE III. The Society of Rheology nomenclature for nonlinear viscoelasticity in shear.

Quantity	Symbol	S.I. units
Start-up flow		
Shear stress growth function	$\sigma^{+}(t,\dot{\gamma})$	Pa
Shear stress growth coefficient	$\eta^{+}(t,\dot{\gamma})$	Pa s
First normal stress growth function	$N_1^{+}(t,\dot{\gamma})$	Pa
First normal stress growth coefficient	$\Psi_1^{+}(t,\dot{\gamma})$	Pa s^2
Second normal stress growth function	$N_2^{+}(t,\dot{\gamma})$	Pa
Second normal stress growth coefficient	$\Psi_2^{+}(t,\dot{\gamma})$	Pa s^2
Cessation of steady shear flow		
Shear stress decay function	$\sigma^{-}(t,\dot{\gamma})$	Pa
Shear stress decay coefficient	$\eta^{-}(t,\dot{\gamma})$	Pa s
First normal stress decay function	$N_1^{-}(t,\dot{\gamma})$	Pa
First normal stress decay coefficient	$\Psi_1^{-}(t,\dot{\gamma})$	Pa s^2
Second normal stress decay function	$N_2^{-}(t,\dot{\gamma})$	Pa
Second normal stress decay coefficient	$\Psi_2^{-}(t,\dot{\gamma})$	Pa s^2
Step strain		
Shear stress relaxation function	$\sigma(t,\gamma)$	Pa
Shear stress relaxation modulus	$G(t,\gamma)$	Pa
First normal stress relaxation function	$N_1(t,\gamma)$	Pa
Second normal stress relaxation function	$N_2(t,\gamma)$	Pa
Creep and recoil		
Shear creep compliance	$J(t,\sigma)$	Pa^{-1}
Steady-state compliance	$J_s(\sigma)$	Pa^{-1}
Recoil strain	$\gamma_r(t,\sigma)$	–
Recoil function	$R(t,\sigma)$	Pa^{-1}
Ultimate recoil	$\gamma_\infty(\sigma)$	–
Ultimate recoil function	$R_\infty(\sigma)$	Pa^{-1}
Superposed steady and oscillatory shear		
Parallel complex viscosity	$\eta_{\parallel}^{*}(\omega,\dot{\gamma}_m)$	Pa s
Orthogonal complex viscosity	$\eta_{\perp}^{*}(\omega,\dot{\gamma}_m)$	Pa s

TABLE IV. TheSociety of Rheology nomenclature for nonlinear viscoelasticity in extension.

Quantity	Symbol	S.I. units
Tensile (simple) extension		
Tensile strain	ε	–
Strain rate (≥0)	$\dot{\varepsilon}$	s^{-1}
Net tensile stress	σ_E	Pa
Tensile stress growth function	σ_E^+	Pa
Tensile stress growth coefficient	$\eta_E^+(t,\dot{\varepsilon})$	Pa s
Tensile viscosity	η_E	Pa s
Tensile stress decay coefficient	$\eta_E^-(t,\dot{\varepsilon})$	Pa s
Tensile creep compliance	$D(t,\sigma_E)$	Pa^{-1}
Steady-state tensile compliance	$D_s(\sigma_E)$	Pa^{-1}
Tensile recoil function	$\varepsilon_r(t,\dot{\varepsilon})$	–
Tensile recoil coefficient	$S(t,\dot{\varepsilon})$	Pa^{-1}
Ultimate tensile recoil	$\varepsilon_\infty(\sigma_E)$	–
Ultimate tensile recoil coefficient	$S_\infty(\sigma_E)$	Pa^{-1}
Tensile stress relaxation modulus	$E(t,\varepsilon)$	Pa
Biaxial extension (symmetric)		
Biaxial strain/strain rate (≥0)	$\varepsilon_B / \dot{\varepsilon}_B$	$–/s^{-1}$
Net stretching stress	σ_B	Pa
Biaxial stress growth function	σ_B^+	Pa
Biaxial stress growth coefficient	$\eta_B^+(t,\dot{\varepsilon}_B)$	Pa s
Biaxial stress decay coefficient	$\eta_B^-(t,\dot{\varepsilon}_B)$	Pa s
Biaxial extensional viscosity	η_B	Pa s
Asymmetric extension		
Largest principal strain rate	$\dot{\varepsilon}$	s^{-1}
Strain ratio	m	–
First net stretching stress	$\sigma_1^{(m)}$	Pa
Second net stretching stress	$\sigma_2^{(m)}$	Pa
First extensional viscosity	$\eta_1^{(m)}$	Pa
Second extensional viscosity	$\eta_2^{(m)}$	Pa