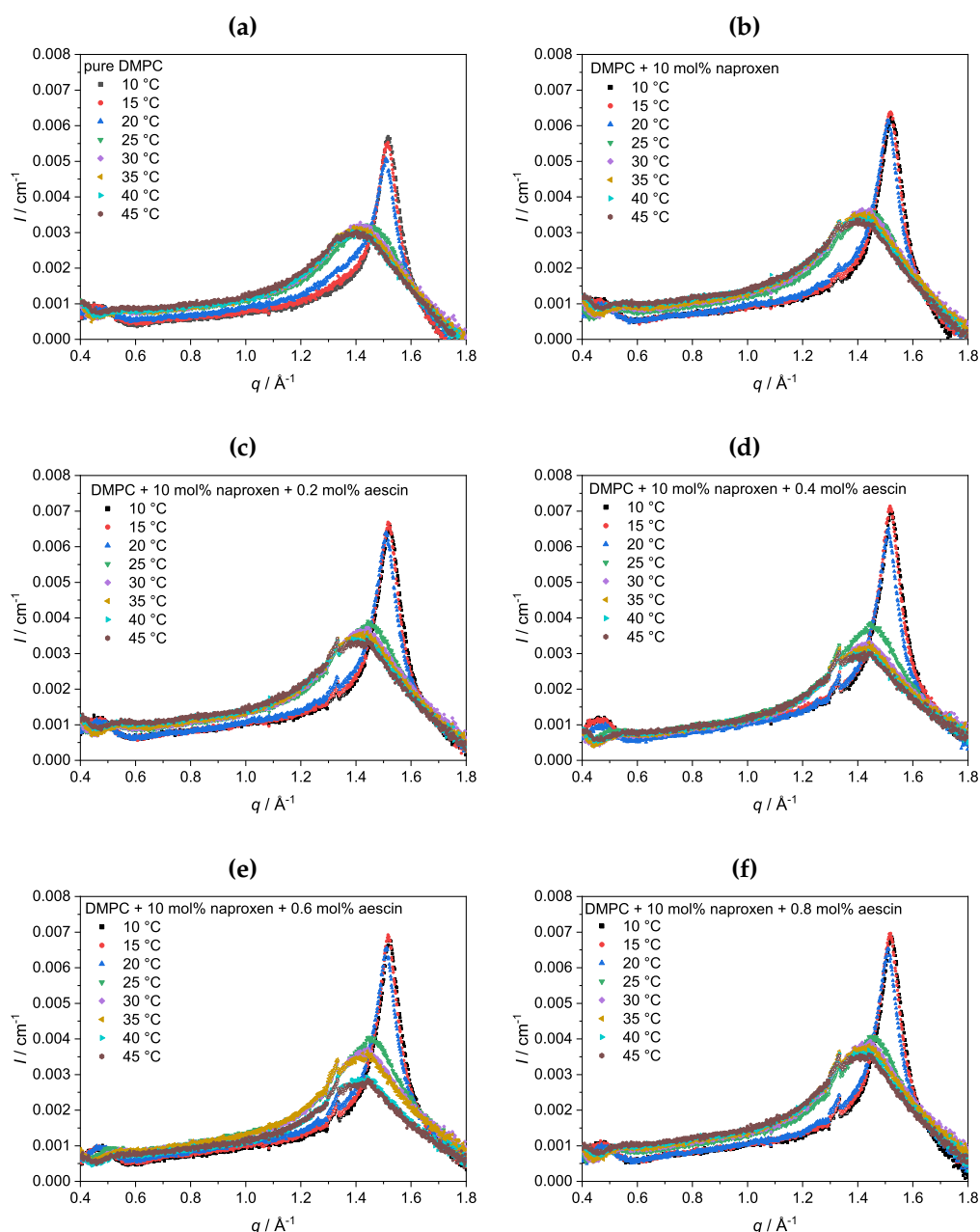


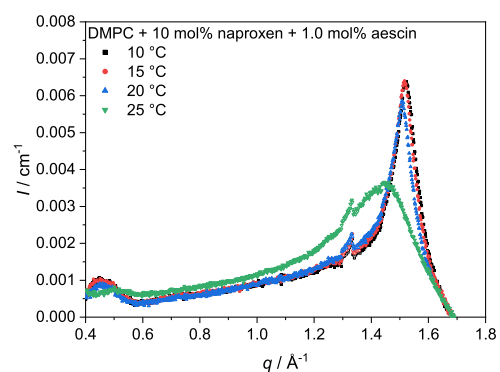
# Supplementary Materials: Interactions between DMPC model membranes, the drug naproxen, and the saponin $\beta$ -aescin

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## 1. WAXS

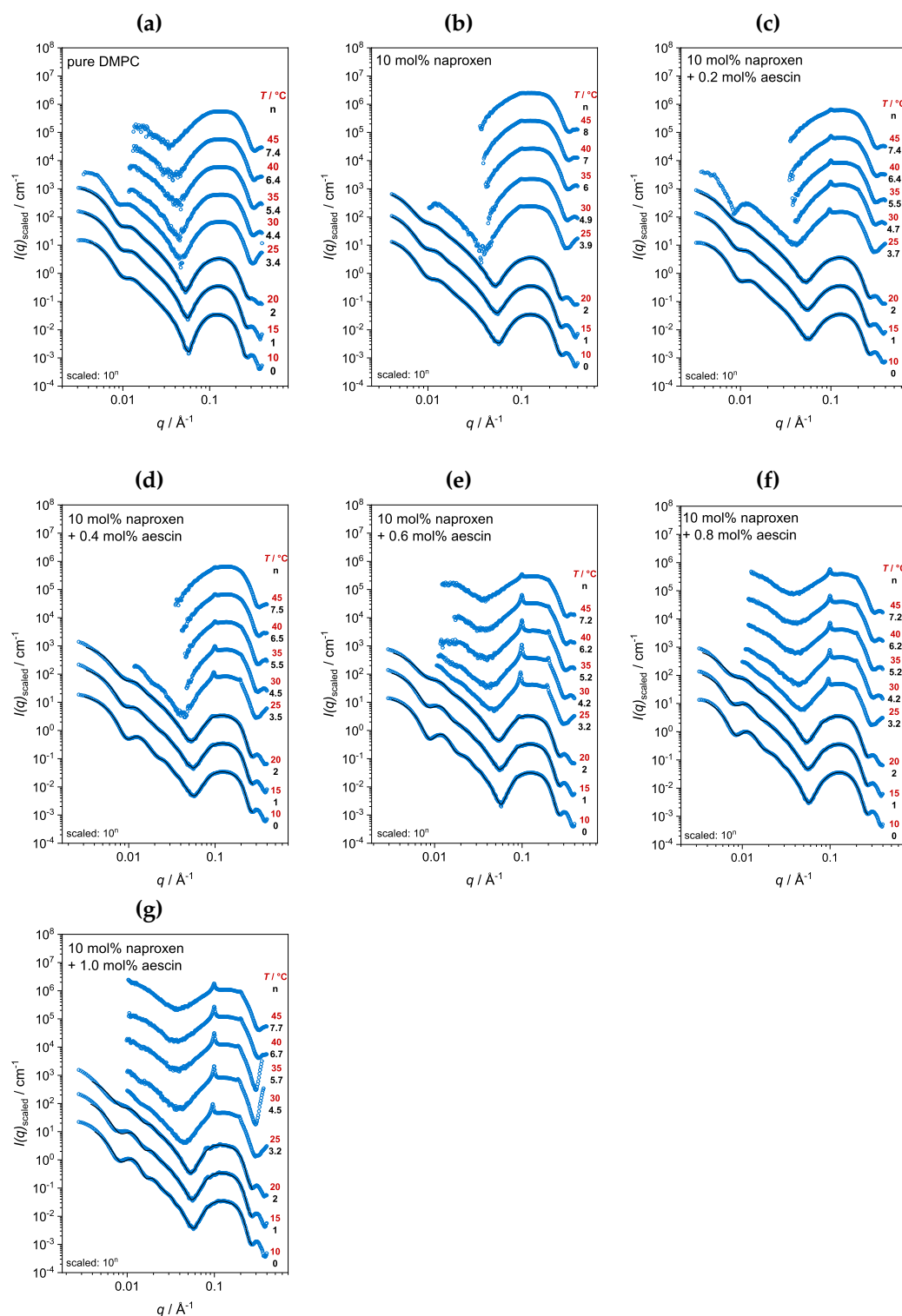


**Figure S1.** Temperature-dependent WAXS-curves for (a) pure DMPC, (b) DMPC with 10 mol% naproxen and (c) - (f) different amounts of aescin, ranging from 0.2 mol% to 0.8 mol%. The open circles mark artifacts that are not considered for evaluation.

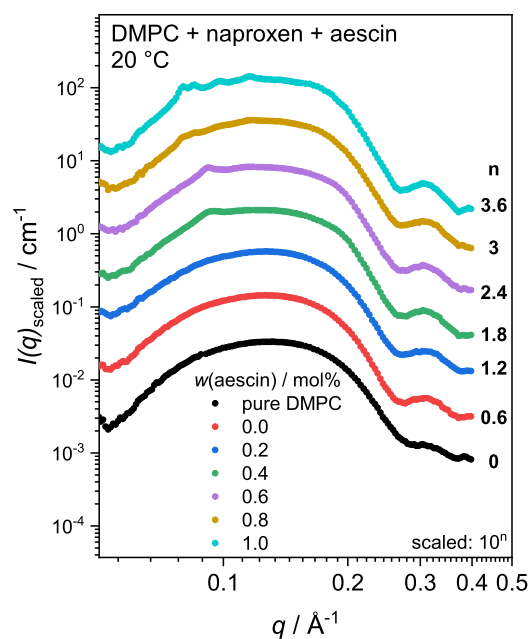


**Figure S2.** Temperature-dependent WAXS-curves for DMPC vesicles with 10 mol% naproxen and 1.0 mol% aescin. The open circles mark artifacts that are not considered for evaluation.

## 2. SAXS

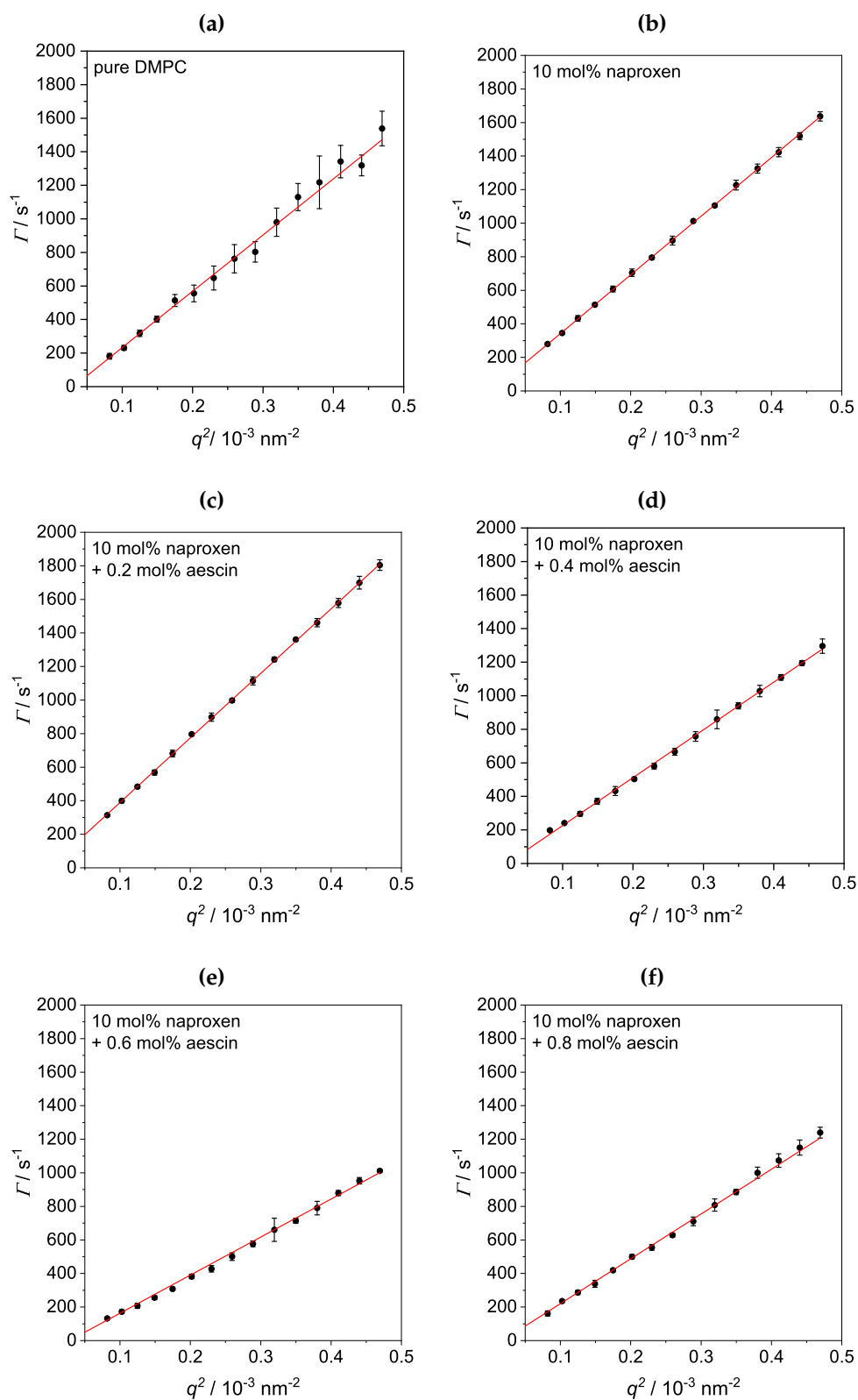


**Figure S3.** Temperature-dependent SAXS-curves for (a) pure DMPC, (b) DMPC with 10 mol% naproxen and (c) - (f) different amounts of aescin, ranging from 0.2 mol% to 1.0 mol%. Curves are scaled by multiples of 10. Solid lines are IFT approximations.

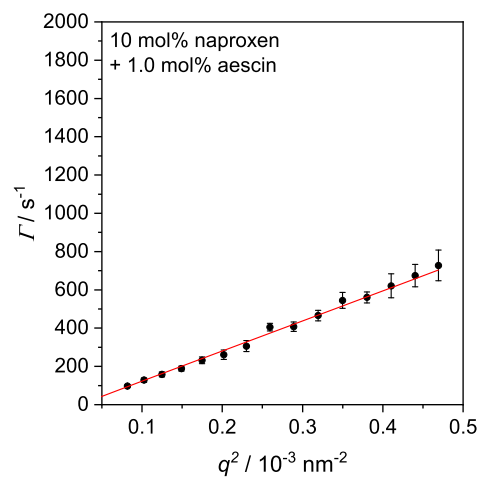


**Figure S4.** SAXS-curves of DMPC vesicles with 10 mol% naproxen and varying amounts of aescin at  $T = 20\text{ °C}$ . Scattering curves are scaled by powers of 10 for better visibility.

## 3. PCS



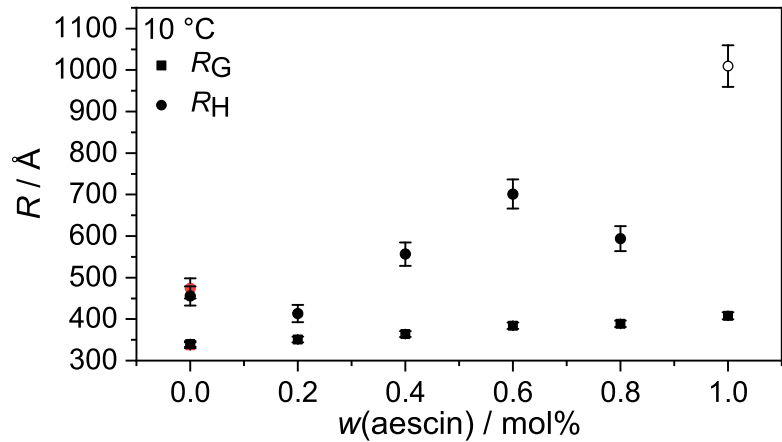
**Figure S5.**  $\Gamma$  plotted against  $q^2$  measured by angle-dependent PCS at  $T = 10^\circ\text{C}$  for (a) pure DMPC, (b) DMPC with 10 mol% naproxen and (c) - (f) different amounts of aescin, ranging from 0.2 mol% to 0.8 mol%. Red lines are linear fits to determine  $D_T$ .



**Figure S6.**  $\Gamma$  plotted against  $q^2$  measured by angle-dependent PCS at  $T = 10^\circ\text{C}$  for DMPC with 10 mol% naproxen and 1.0 mol% aescin. Red lines are linear fits to determine  $D_T$ .

**Table S1.** Hydrodynamic radius  $R_H$  and polydispersity index PDI obtained from contin evaluation of PCS data in dependence on the aescin amount  $w(\text{aescin})$ . Data was recorded at  $T = 10^\circ\text{C}$ .

$w(\text{aescin}) / \text{mol\%}$	$R_H / \text{\AA}$	PDI
pure DMPC	$474 \pm 24$	0.29
0.0	$456 \pm 23$	0.06
0.2	$413 \pm 21$	0.09
0.4	$557 \pm 28$	0.31
0.6	$701 \pm 35$	0.35
0.8	$594 \pm 30$	0.28
1.0	$1010 \pm 50$	0.33



**Figure S7.** Comparison of  $R_G$  and  $R_H$  values, both measured at  $T = 10^\circ\text{C}$  and in dependence on  $w(\text{aescin})$ . The red symbols mark the values for pure DMPC vesicles.