

**TABLE 5 Summary of structural results for disaturated lipids in the liquid-crystalline ( $L_{\alpha}$ ) state**

Lipid	T (°C)	$S_p$	$q$	$D_C$ (Å)	$\langle A \rangle$ (Å <sup>2</sup> )	$\alpha_{\parallel}$ ( $10^{-3} \text{ K}^{-1}$ )	$\alpha_{\perp}$ ( $10^{-3} \text{ K}^{-1}$ )	$\nu_{\parallel}$ ( $10^{-2}$ )	$\nu_{\perp}$ ( $10^{-2}$ )	$L_C^*$ (Å)	$L_C$ (Å)
DLPC	10	0.229	1.35	11.4	56.7	-3.6	4.8	—	—	9.2	10.9
	30	0.193	1.45	10.5	62.6	-3.9	5.1	10.9	-2.5	8.4	9.9
	50	0.175	1.52	10.1	67.1	-2.3	3.5	9.8	-1.5	7.8	9.2
	65	0.160	1.59	9.6	71.2	-2.9	4.1	10.7	-2.3	7.4	8.7
DMPC	30	0.213	1.39	12.8	60.0	-3.1	4.3	8.9	-1.8	10.6	12.2
	50	0.184	1.48	12.0	65.4	-3.3	4.4	8.2	-1.1	9.7	11.2
	65	0.173	1.53	11.7	68.5	-2.0	3.1	8.8	-1.6	9.3	10.6
DPPC	50	0.198	1.44	14.2	63.3	-2.7	3.8	7.6	-1.4	11.8	13.3
	65	0.181	1.50	13.6	67.1	-2.8	3.9	7.1	-0.9	11.1	12.4
	80	0.163	1.57	13.0	71.9	-3.5	4.6	7.7	-1.4	10.4	11.6
DSPC	65	0.188	1.47	15.6	66.0	-2.9	4.0	6.3	-0.8	13.0	14.3
	80	0.171	1.54	14.9	70.1	-3.0	4.1	6.6	-1.1	12.2	13.5
DPPE	69	0.232	1.34	15.2	60.5	-2.7	3.9	—	—	12.7	14.3
	85	0.209	1.40	14.5	64.4	-2.9	4.0	—	—	12.1	13.5

$S_p$  denotes the plateau order parameter values used to calculate the area factor  $q$  (Eq. 42), the hydrocarbon thickness  $D_C$  (Eq. 44), and the average area per lipid  $\langle A \rangle$  (Eq. 42) using MT. The average chain lengths are calculated using Eq. 45 for  $L_C^*$  and Eq. 46 for  $L_C$ .