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Supplement of

Ice fabrics in two-dimensional flows: beyond pure and simple shear

Daniel H. Richards et al.

Correspondence to: Daniel H. Richards (d.h.richards@leeds.ac.uk)

Section S1: Parameter sensitivity study

In this supplement we perform a parameter sensitivity study of the main results in the main paper. From Fig. 5 in Richards et al. (2021) we use the 80% confidence intervals to choose parameters to give the strongest and weakest fabrics. For the strongest fabric we use $\iota_{\max}, \tilde{\beta}_{\max}, \tilde{\lambda}_{\min}$ and vice versa. We then reproduce the figures from Richards et al. (2021) with these two parameter sets. The discussion of how sensitive the figures are to the changes in parameters is in the main text.

Figures S1 and S2 show Fig. 8 from the main text reproduced with the upper and lower bound on fabric strength respectively. Figures S3 and S4 show this for Fig. 9 in the main text. Figures S7 and S8 show the same for Fig. 10 in the main text. Figures S5 and S6 show this for Fig. 11 in the main text. Figures S9 and S10 show this for Fig. 12 in the main text. Finally, figs. S11 and S12 show this for Fig. 13 in the main text.

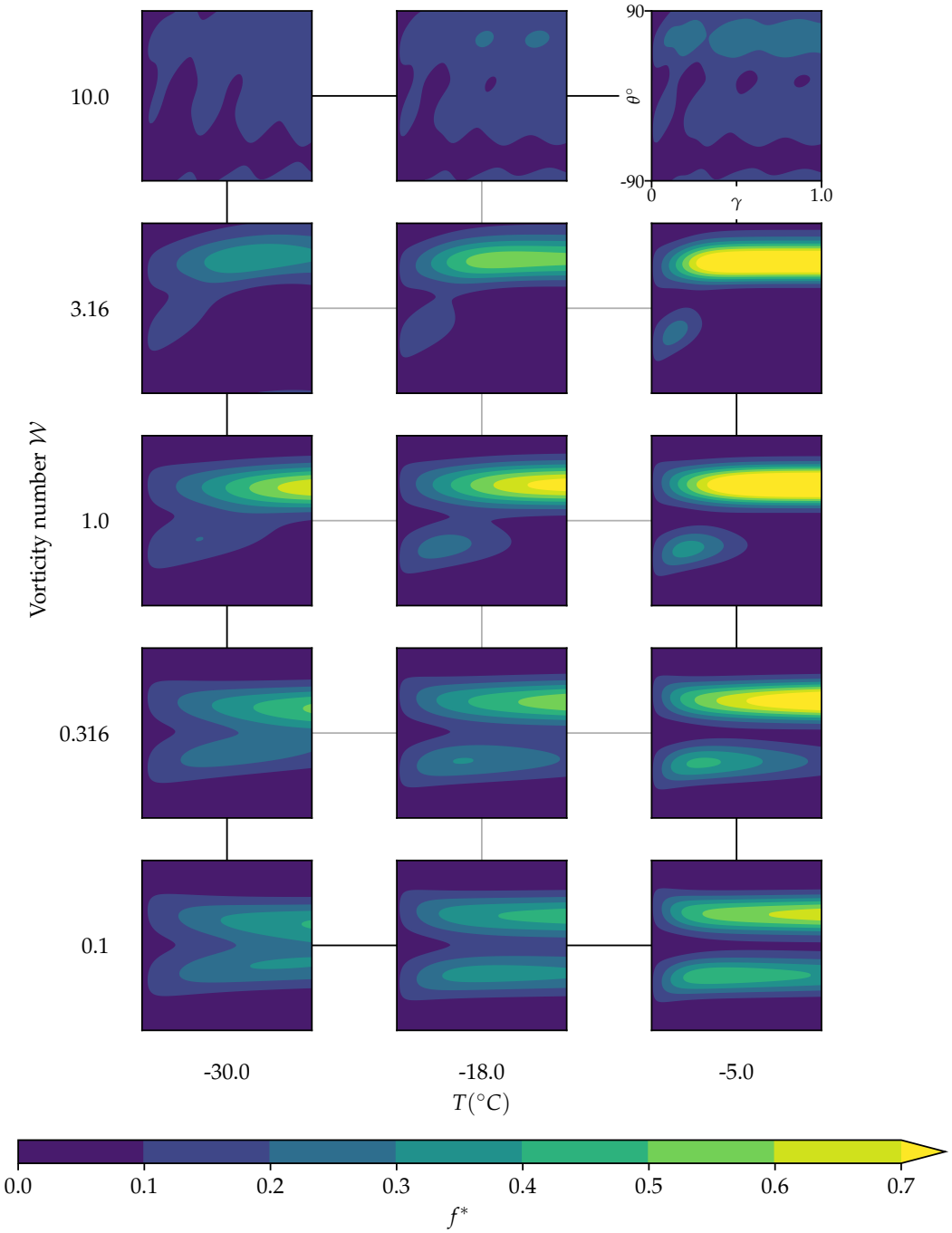

Figure S1. As Fig. 8 from Richards et al. (2021) but with $\iota_{\max}, \tilde{\beta}_{\max}, \tilde{\lambda}_{\min}$, to give the strongest fabric.

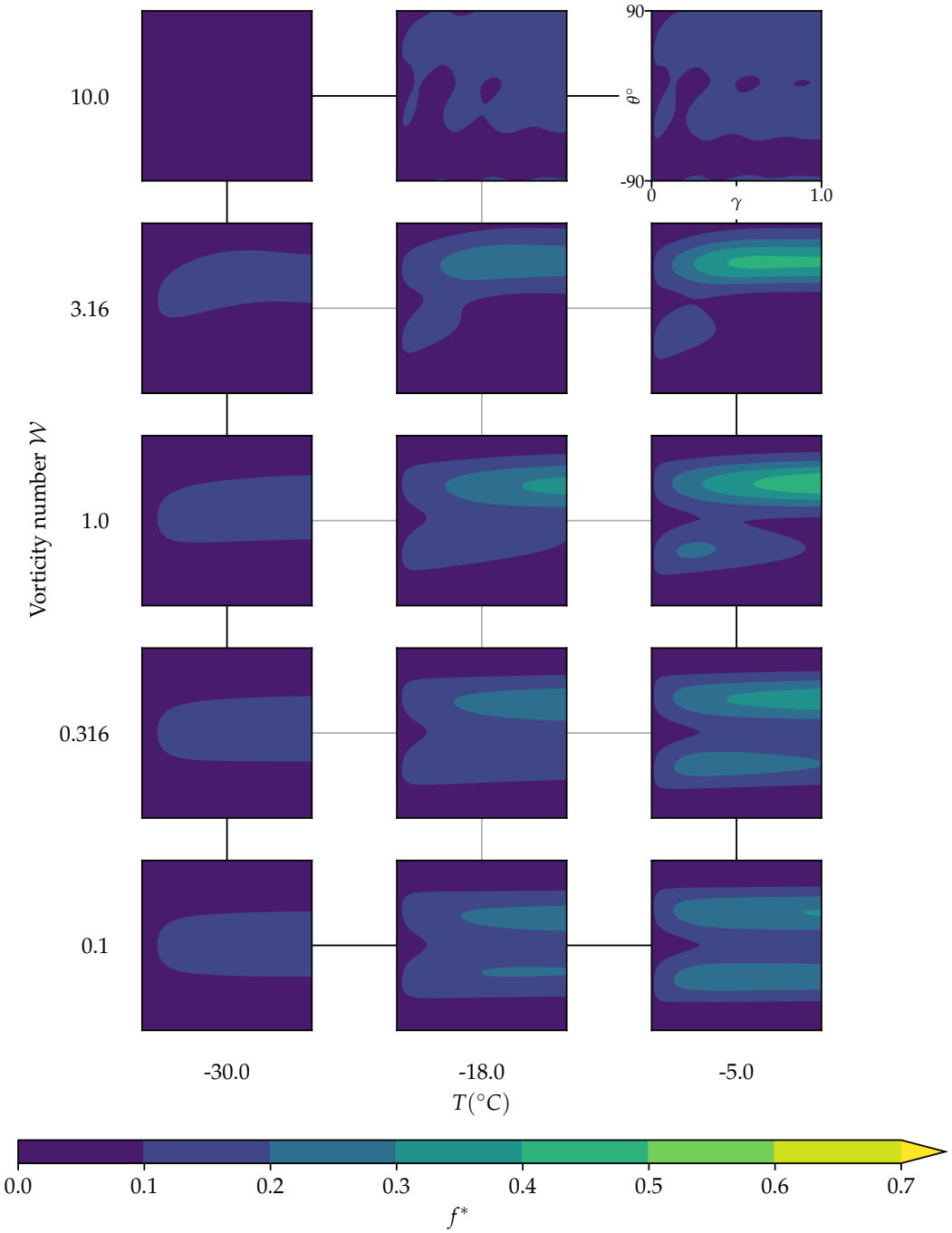

Figure S2. As Fig. 8 from Richards et al. (2021) but with $\iota_{\min}, \tilde{\beta}_{\min}, \tilde{\lambda}_{\max}$, to give the weakest fabric.

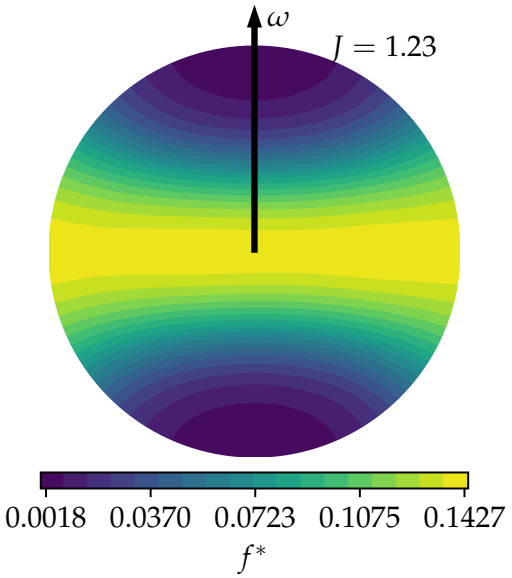

Figure S3. As Fig. 9 from Richards et al. (2021) but with $\iota_{\max}, \tilde{\beta}_{\max}, \tilde{\lambda}_{\min}$, to give the strongest fabric.

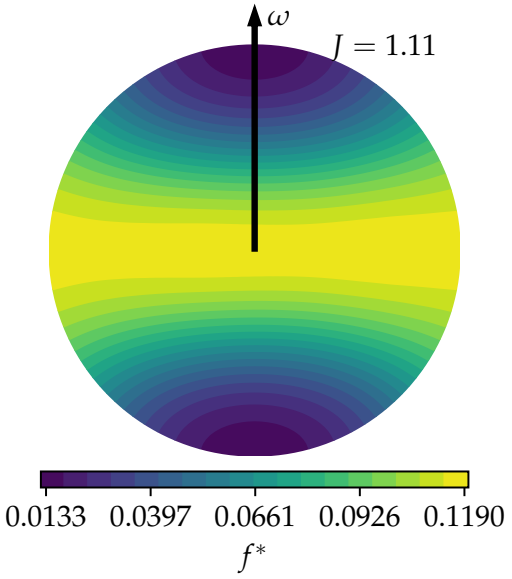

Figure S4. As Fig. 9 from Richards et al. (2021) but with $\iota_{\min}, \tilde{\beta}_{\min}, \tilde{\lambda}_{\max}$, to give the weakest fabric.

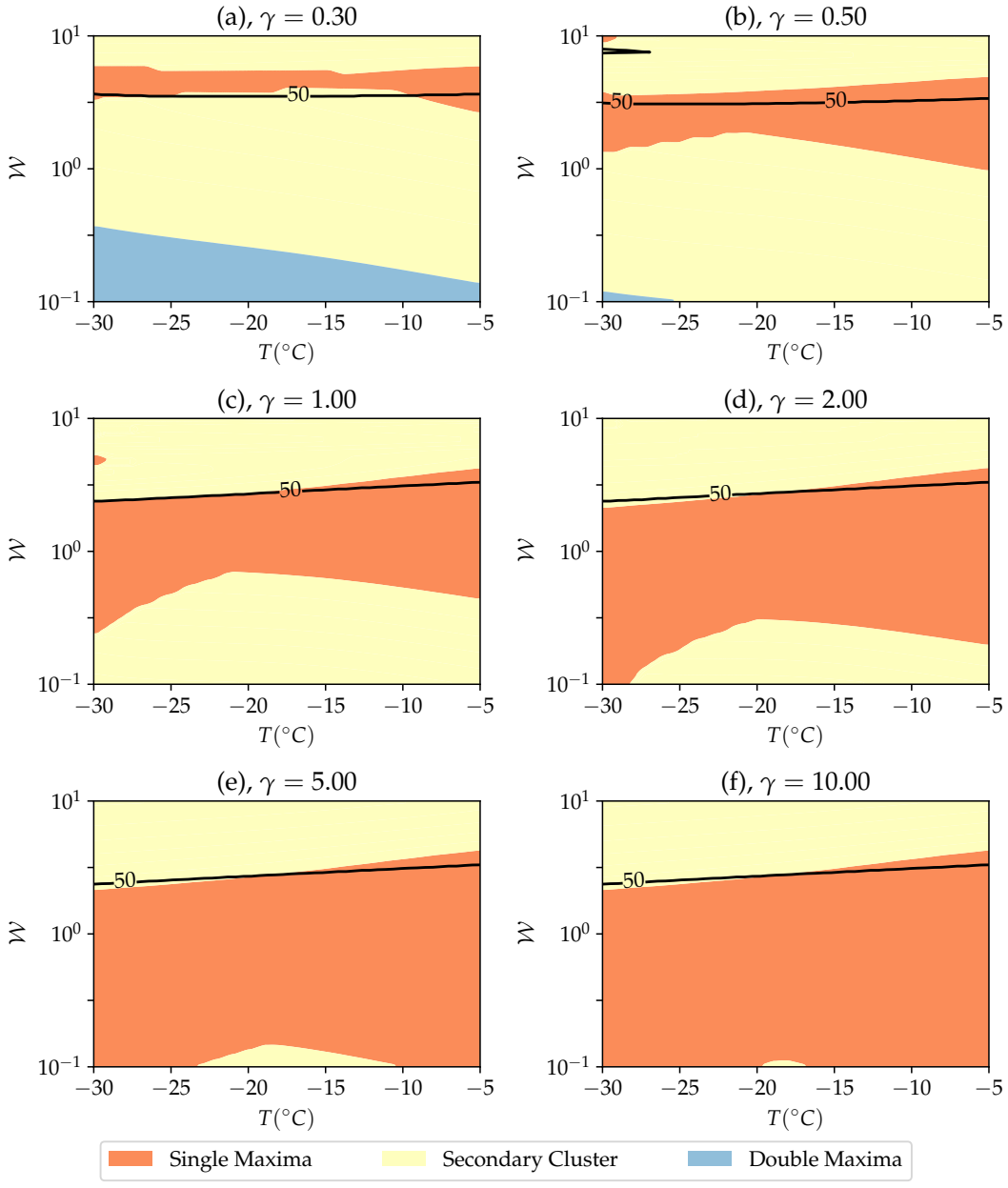

Figure S5. As Fig. 10 from Richards et al. (2021) but with $\iota_{\max}, \tilde{\beta}_{\max}, \tilde{\lambda}_{\min}$, to give the strongest fabric.

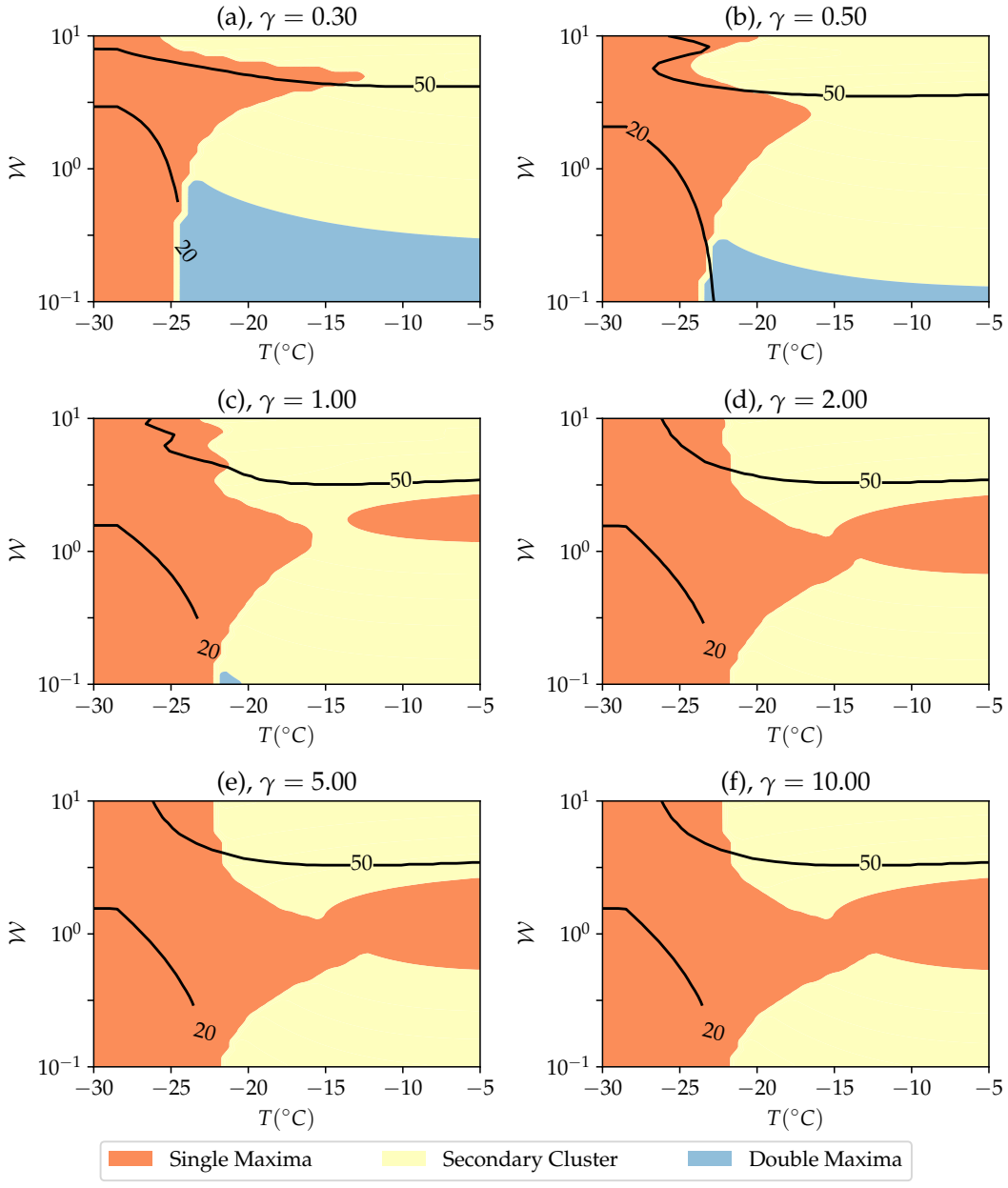

Figure S6. As Fig. 10 from Richards et al. (2021) but with $\iota_{\min}, \tilde{\beta}_{\min}, \tilde{\lambda}_{\max}$, to give the weakest fabric.

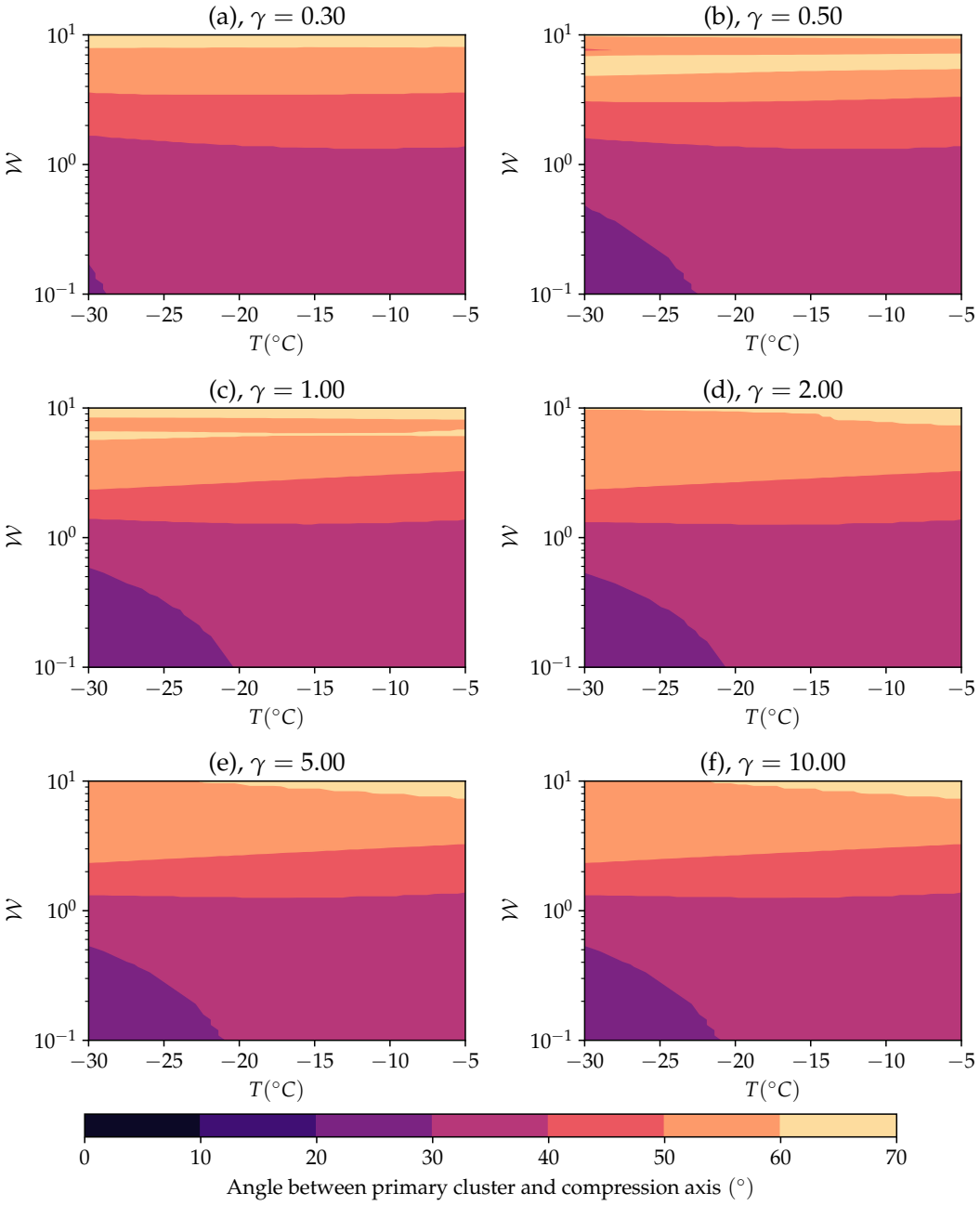

Figure S7. As Fig. 11 from Richards et al. (2021) but with $\iota_{\max}, \tilde{\beta}_{\max}, \tilde{\lambda}_{\min}$, to give the strongest fabric.

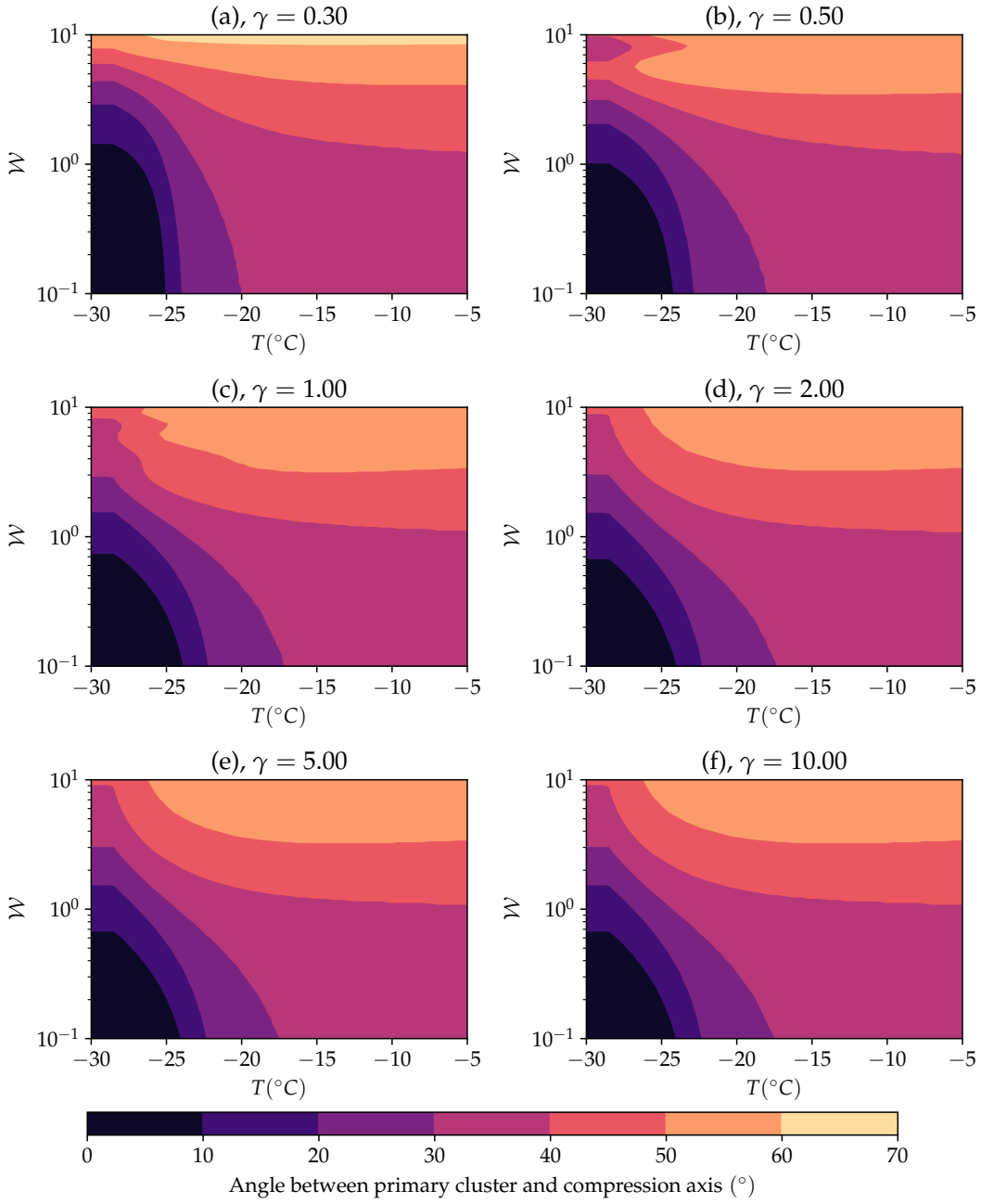

Figure S8. As Fig. 11 from Richards et al. (2021) but with $\iota_{\min}, \tilde{\beta}_{\min}, \tilde{\lambda}_{\max}$, to give the weakest fabric.

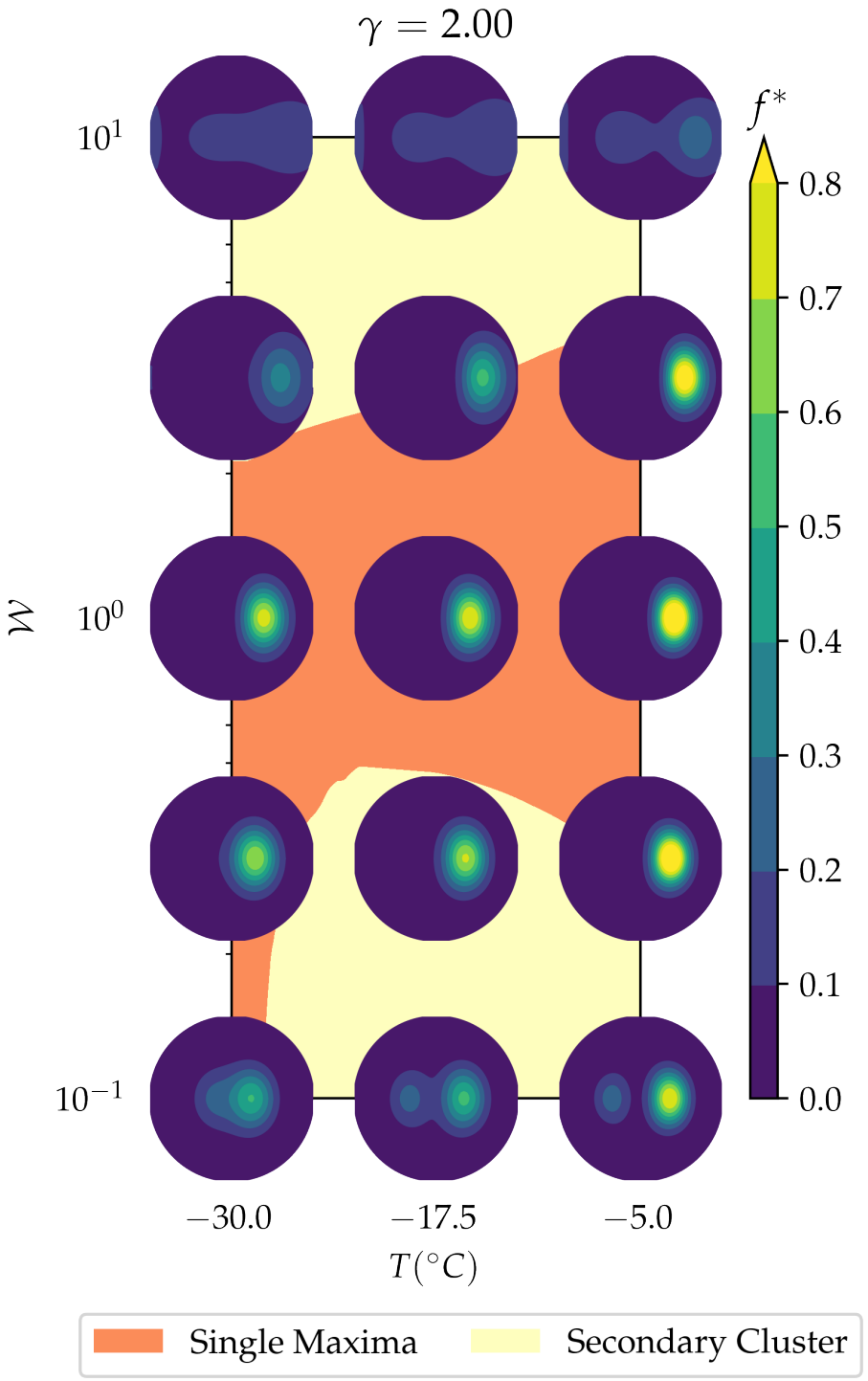

Figure S9. As Fig. 12 from Richards et al. (2021) but with $\iota_{\max}, \tilde{\beta}_{\max}, \tilde{\lambda}_{\min}$, to give the strongest fabric.

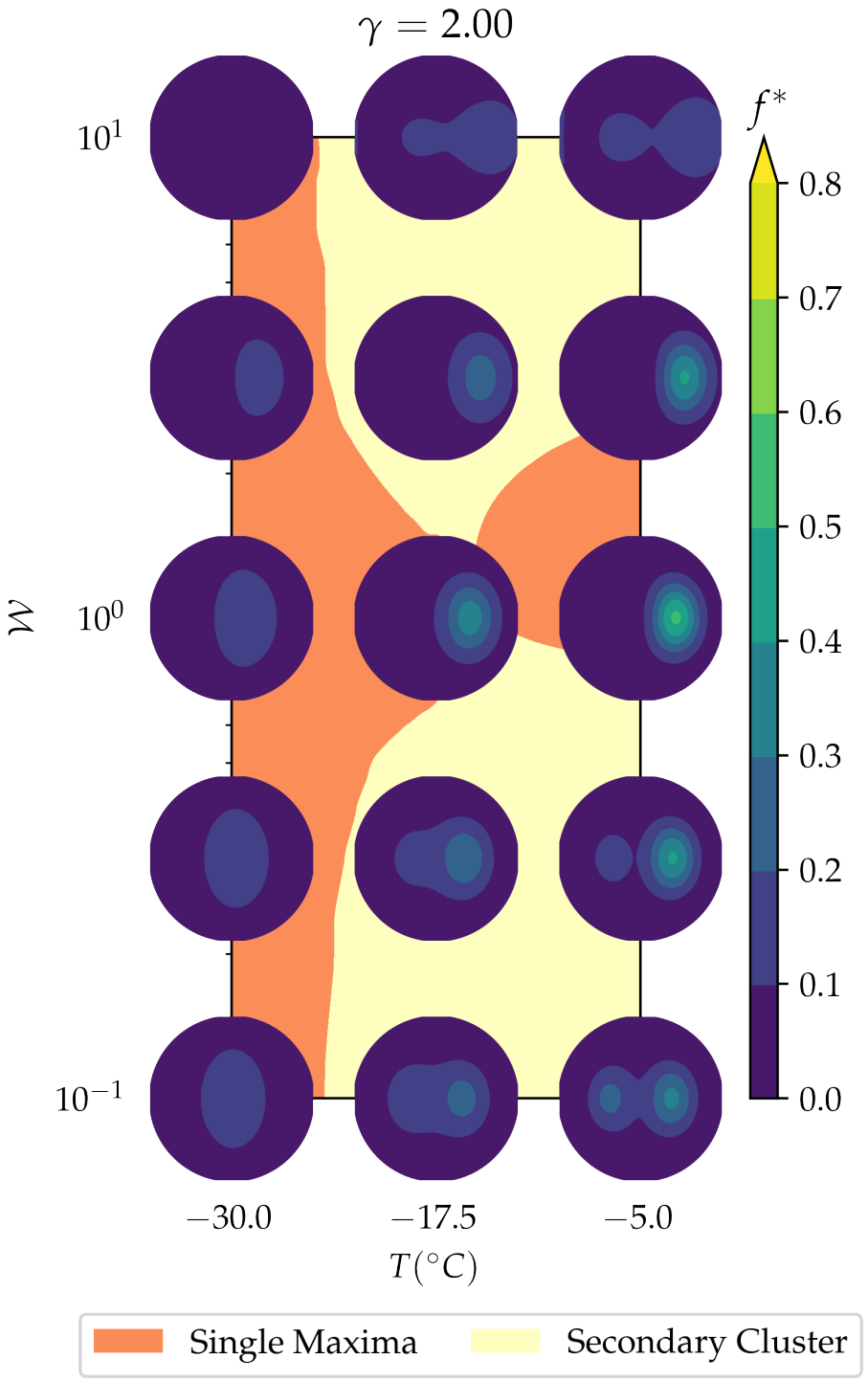

Figure S10. As Fig. 12 from Richards et al. (2021) but with $\iota_{\min}, \tilde{\beta}_{\min}, \tilde{\lambda}_{\max}$, to give the weakest fabric.

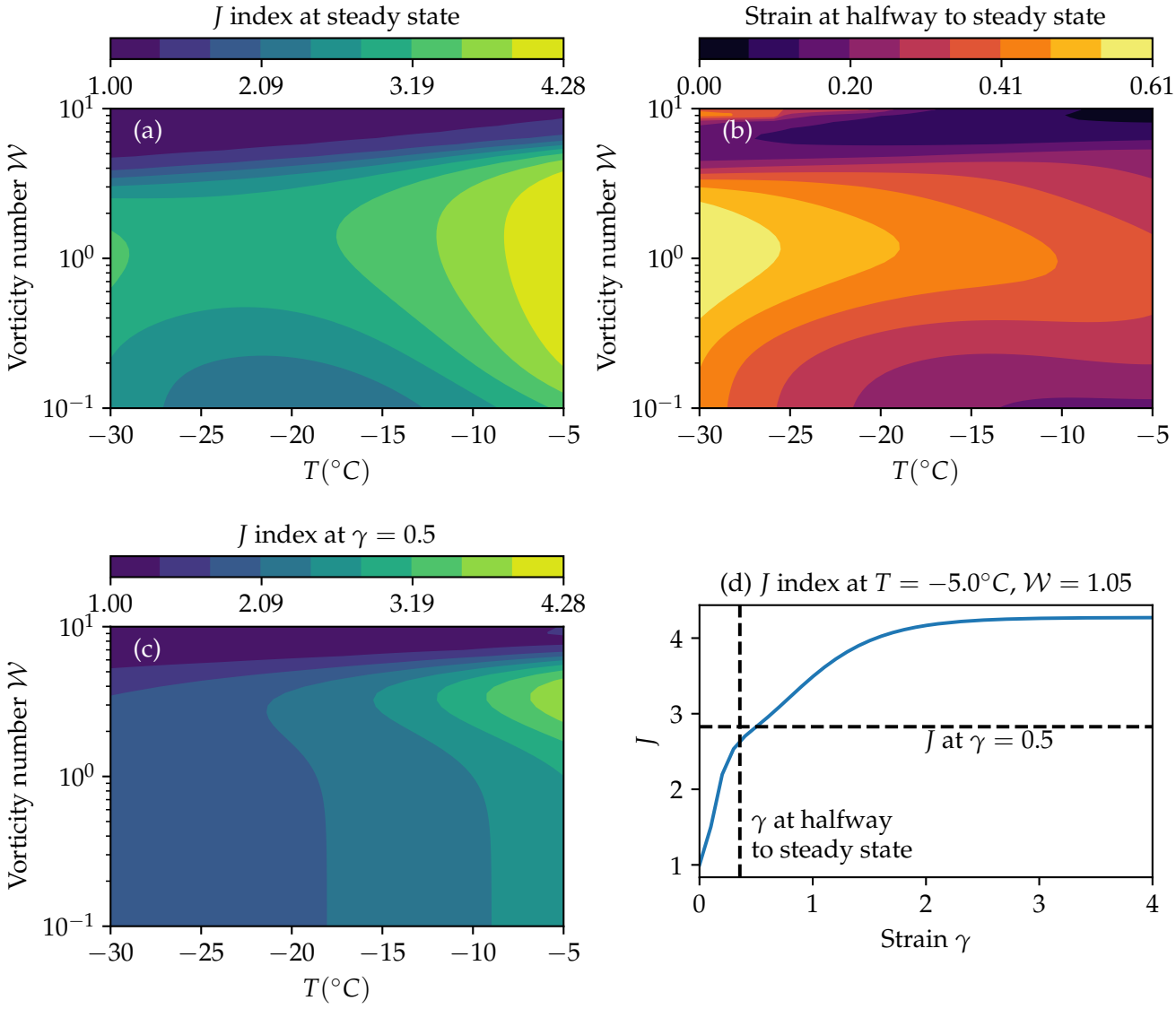

Figure S11. As Fig. 13 from Richards et al. (2021) but with $\iota_{max}, \tilde{\beta}_{max}, \tilde{\lambda}_{min}$, to give the strongest fabric.

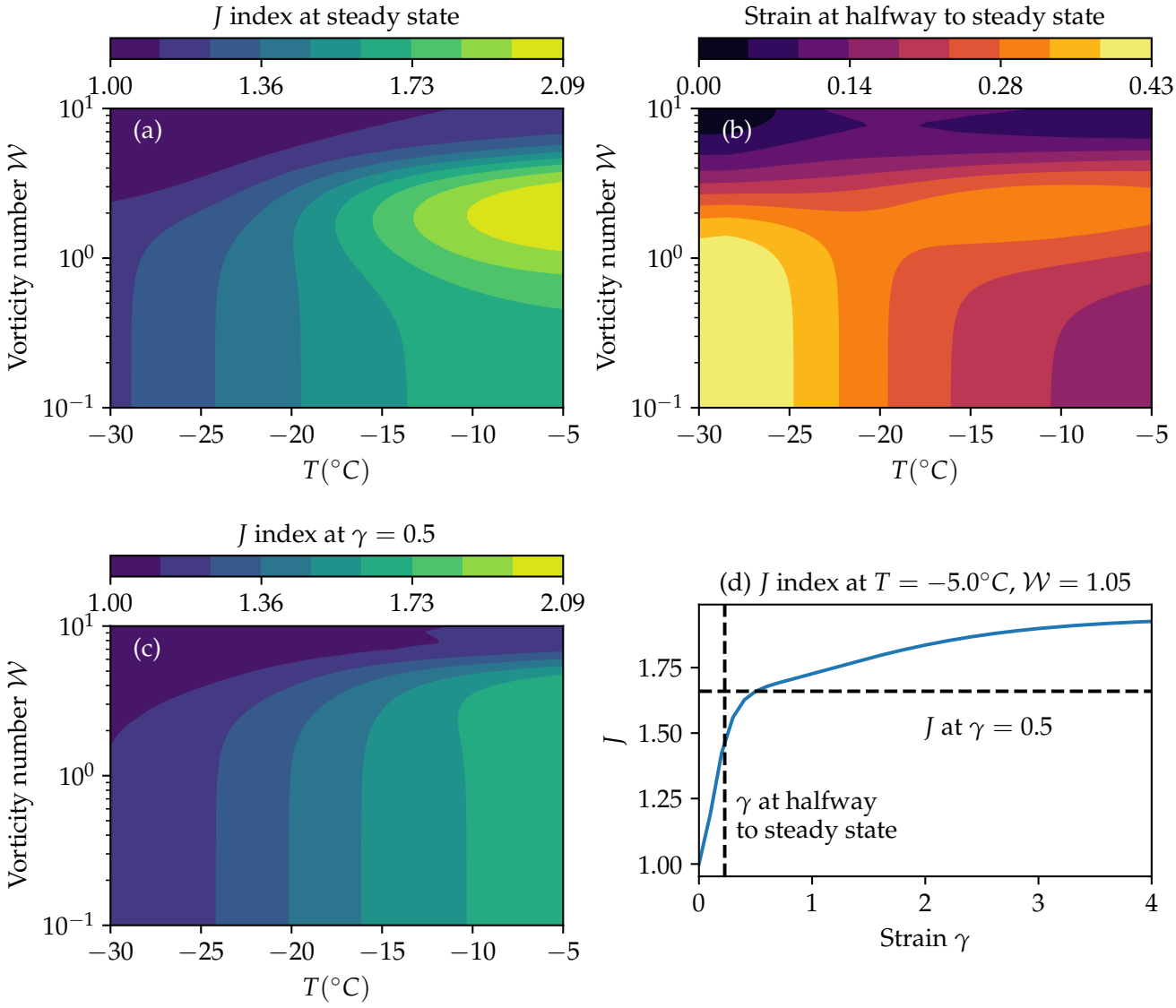

Figure S12. As Fig. 13 from Richards et al. (2021) but with $\iota_{\min}, \tilde{\beta}_{\min}, \tilde{\lambda}_{\max}$, to give the weakest fabric.

References

Richards, D. H., Pegler, S. S., and Piazolo, S.: Ice fabrics in natural flows: beyond pure and simple shear, The Cryosphere Discussions, 2021, 1–26, https://doi.org/10.5194/tc-2021-118, 2021.