

Supplementary Data

Measurements of traction and film thickness for all fluids tested are included here for reference. In all figures in this section, filled markers and solid lines indicate the 'forward sliding' (disc faster) condition, and empty markers with dashed lines indicate 'reverse sliding' (ball faster).

1 Traction Measurements

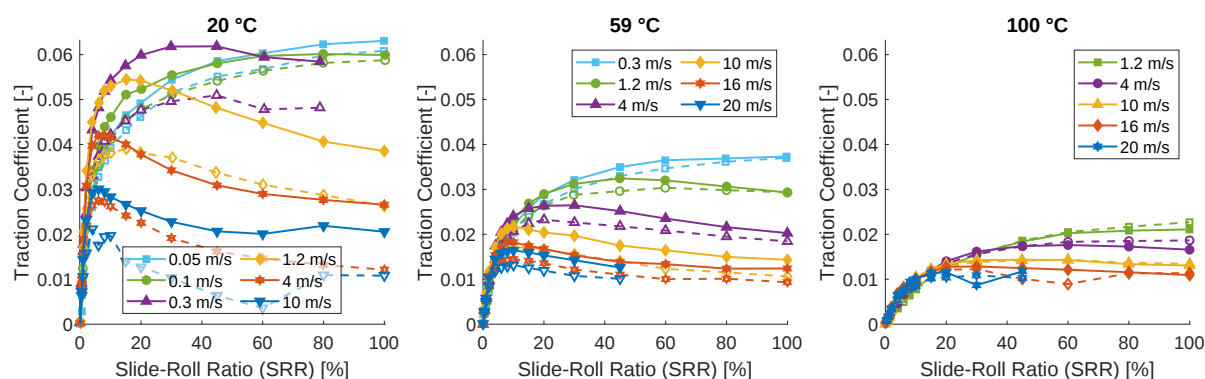


Figure 1: Heavy Mineral Oil (Sigma Aldrich 330760)

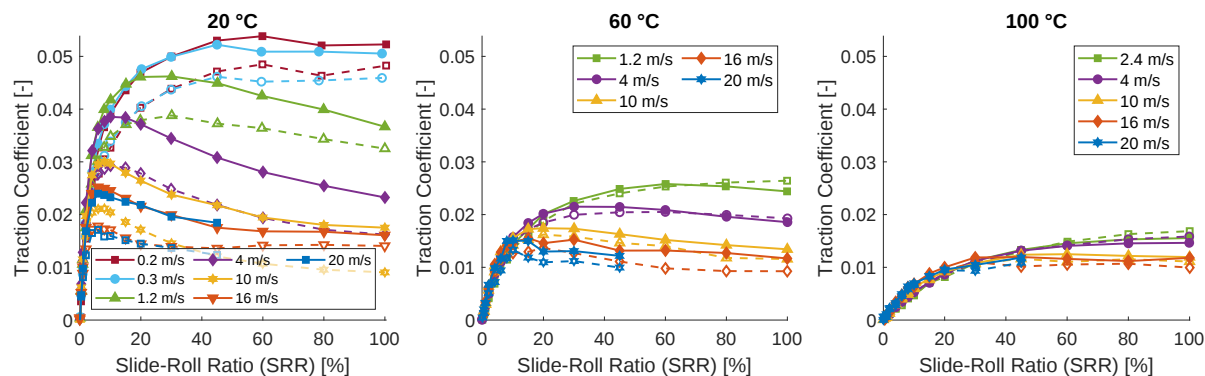


Figure 2: HVI 60 Group I

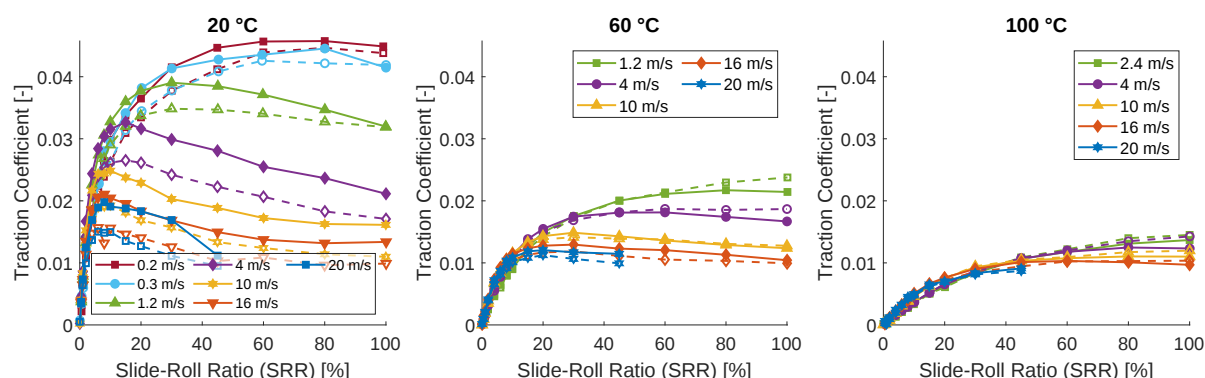


Figure 3: CHN 100R Group II

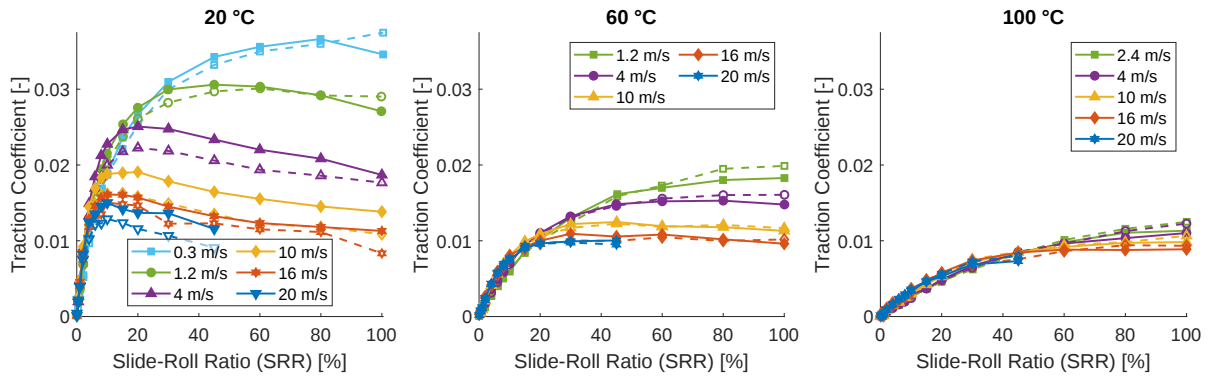


Figure 4: Yubase 4 Group III

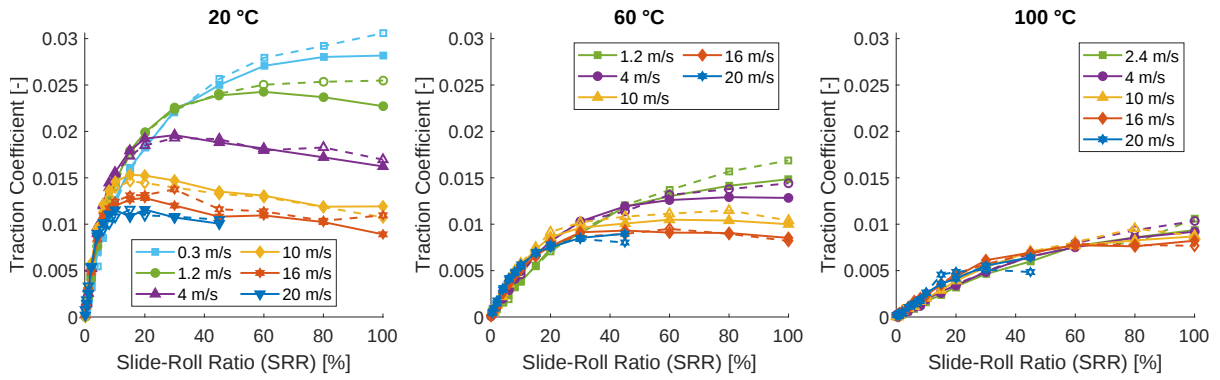


Figure 5: PAO4 Group IV

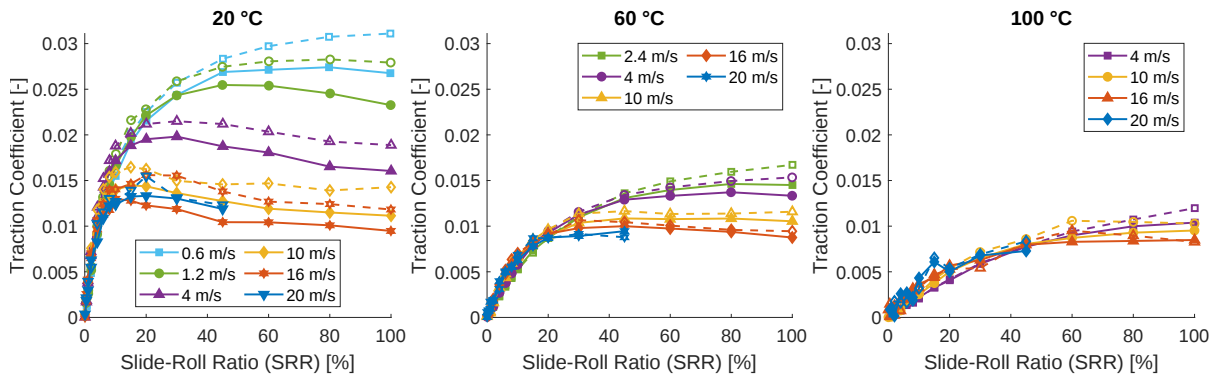


Figure 6: PAO5 Group IV

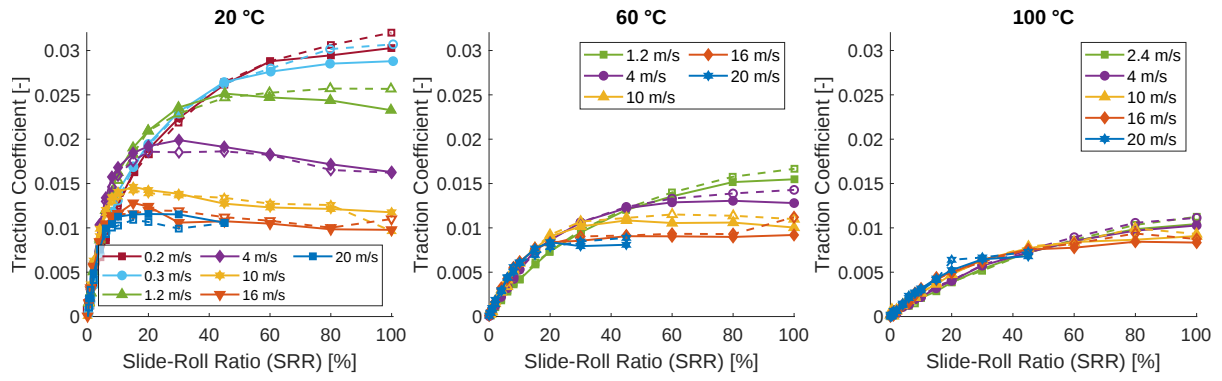


Figure 7: PAO5 Group IV, a repeat measurement with more speeds

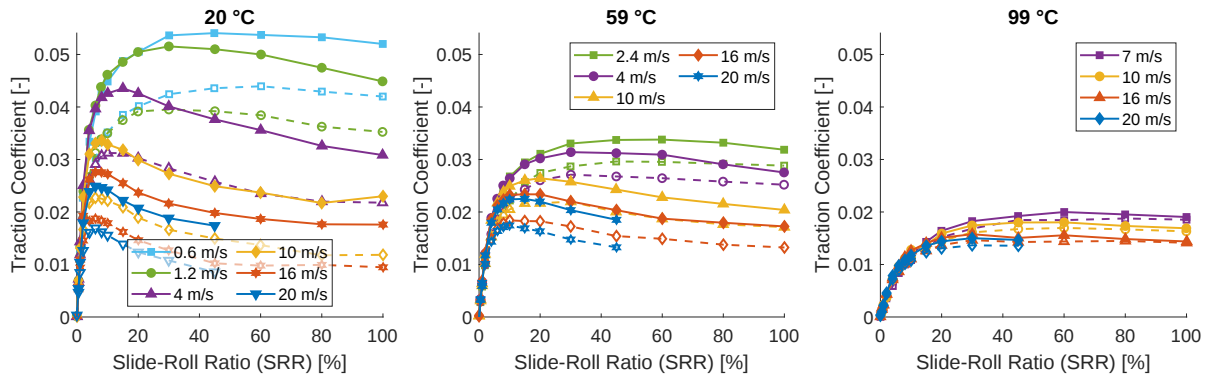


Figure 8: PAO5 Group IV on Sapphire Disc

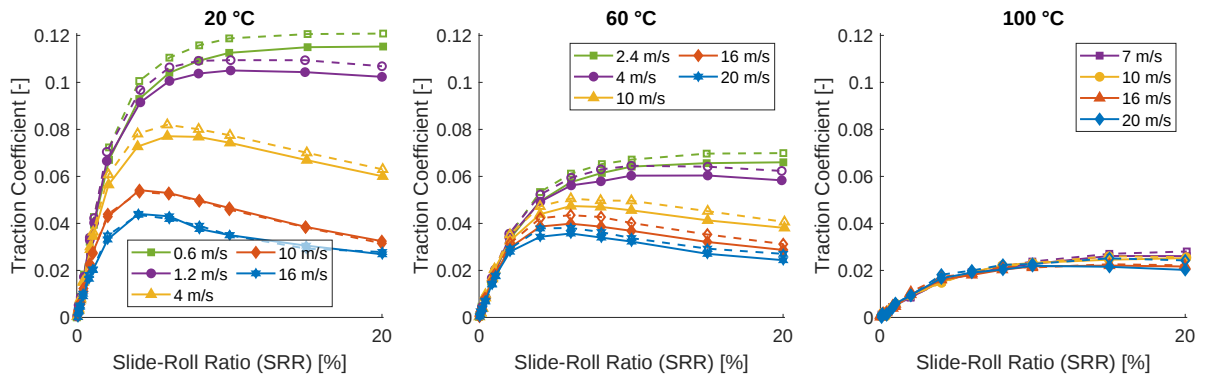


Figure 9: Santotrac 50 at 20 N

2 Film Thickness Measurements

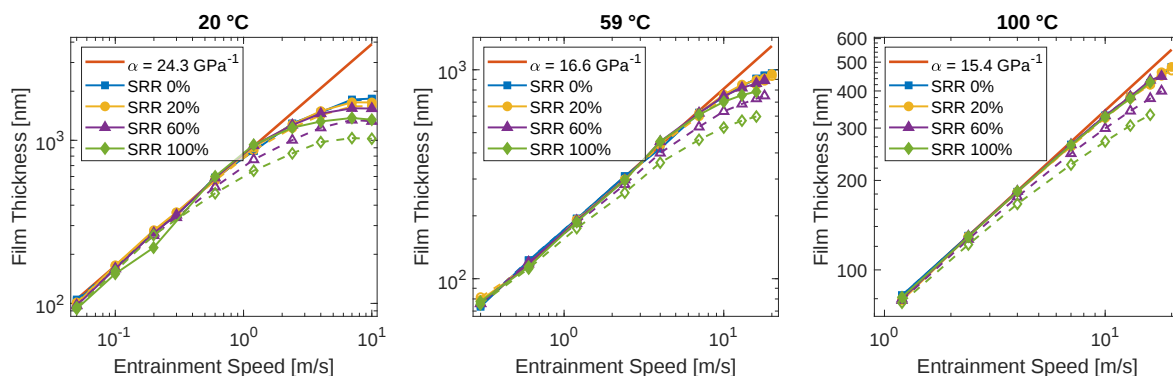


Figure 10: Heavy Mineral Oil (Sigma Aldrich 330760)

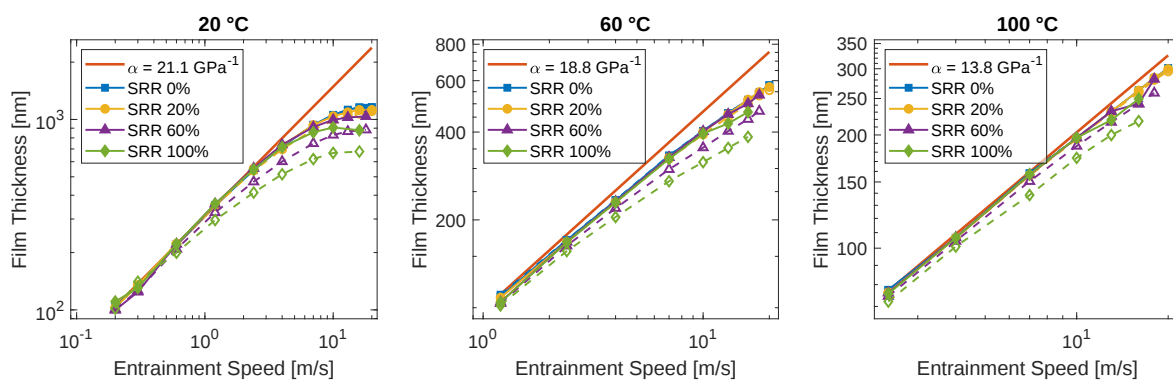


Figure 11: HVI 60 Group I

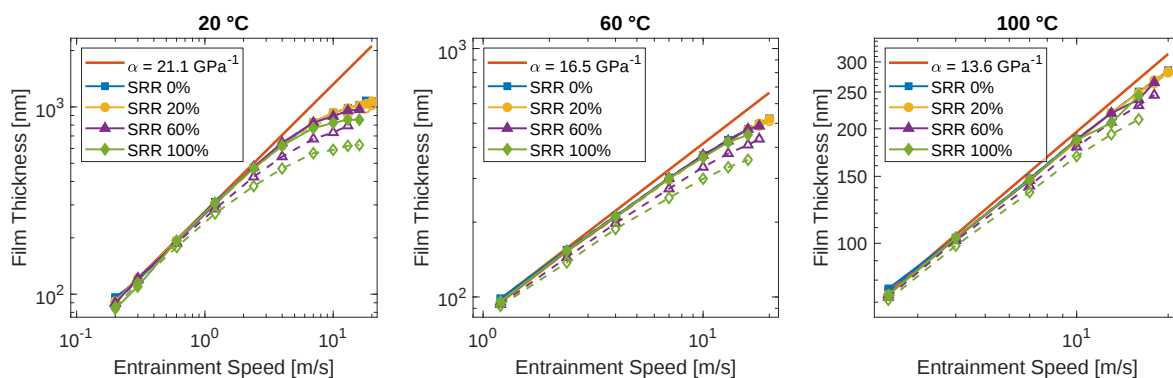


Figure 12: CHN 100R Group II

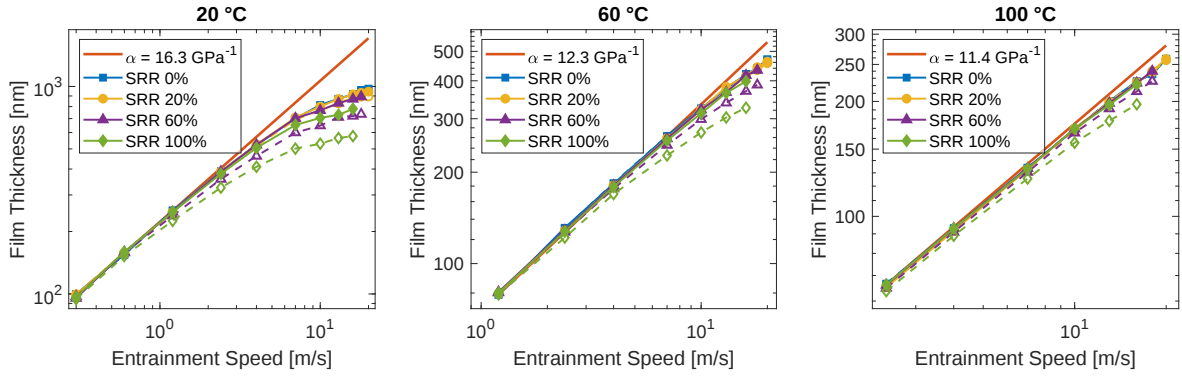


Figure 13: Yubase 4 Group III

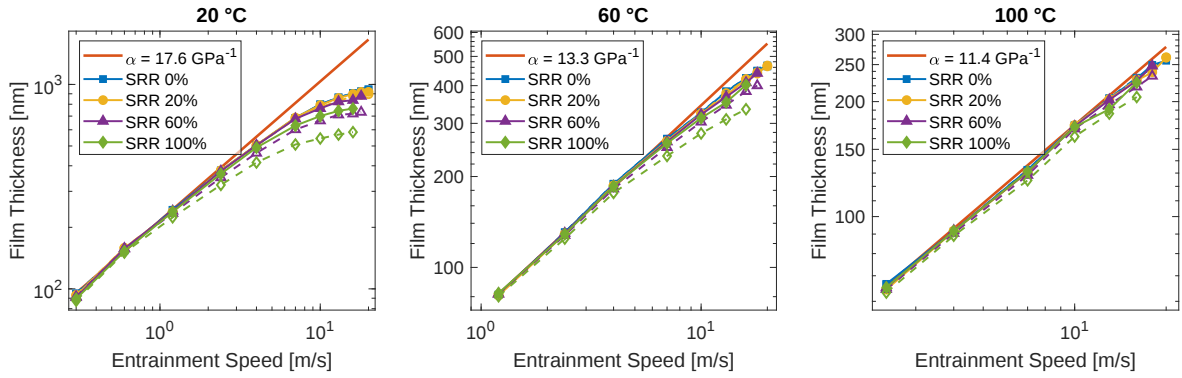


Figure 14: PAO4 Group IV

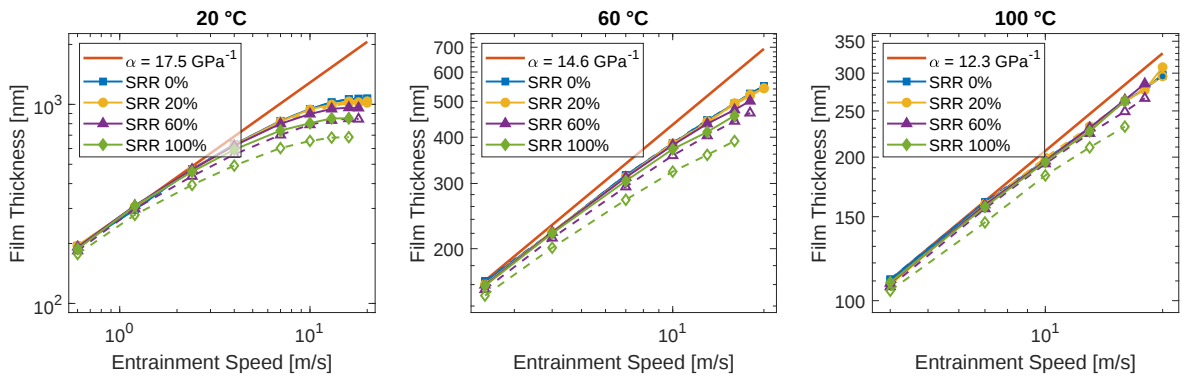


Figure 15: PAO5 Group IV

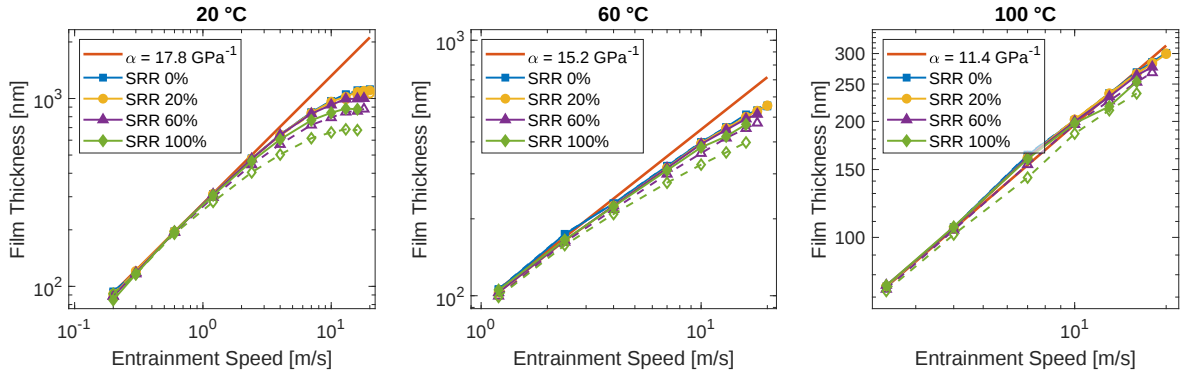


Figure 16: PAO5 Group IV, a repeat measurement with more speeds

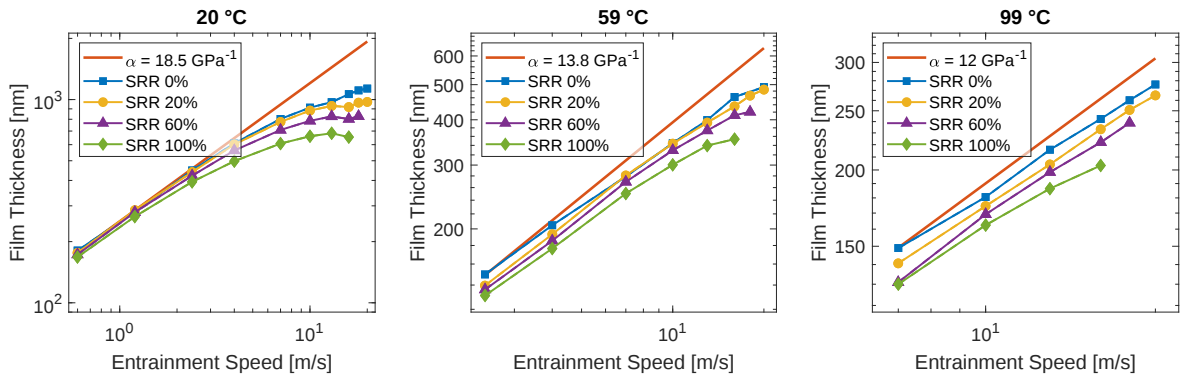


Figure 17: PAO5 Group IV on Sapphire Disc

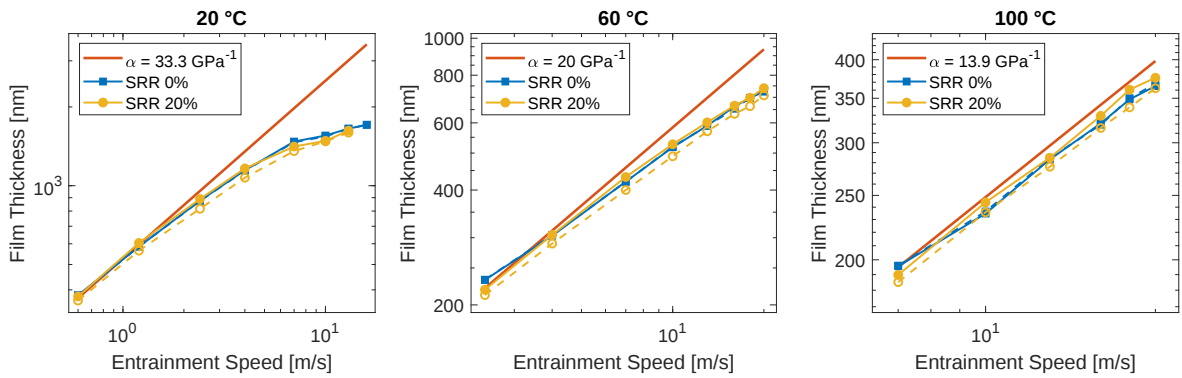


Figure 18: Santotrac 50 at 20 N

3 Traction and Film Thickness 3D Plots

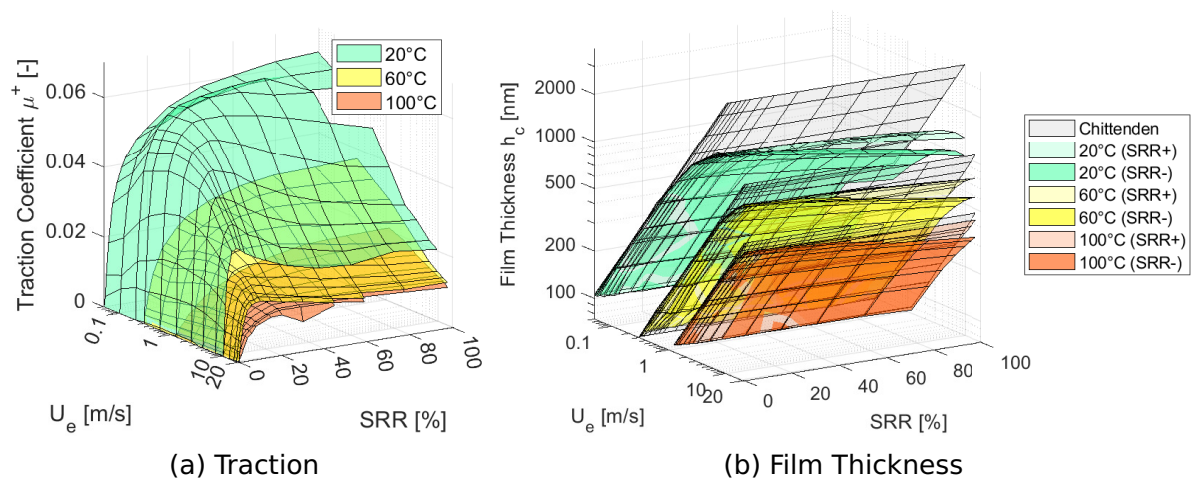


Figure 19: Heavy Mineral Oil (Sigma Aldrich 330760)

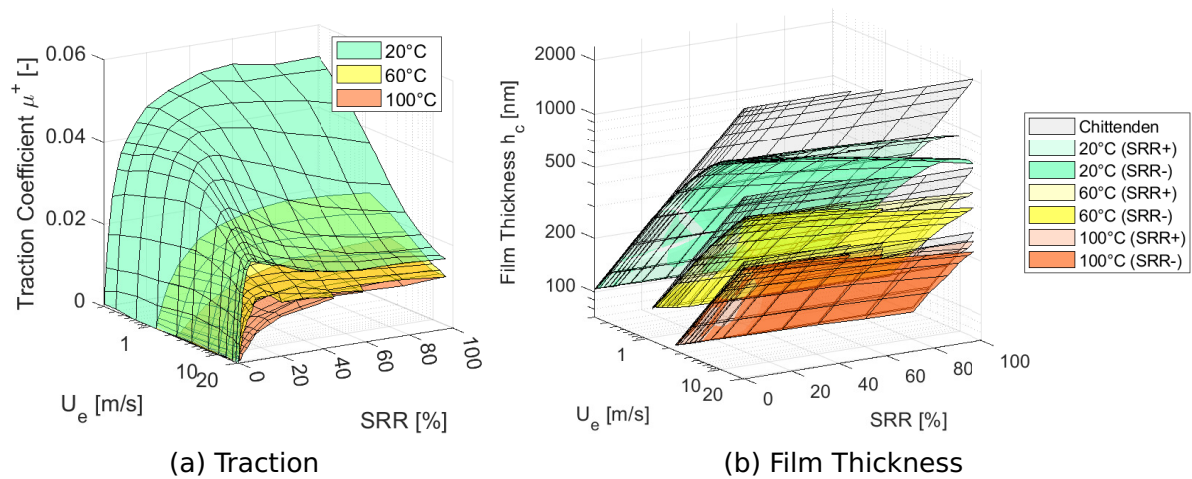


Figure 20: HVI 60 Group I

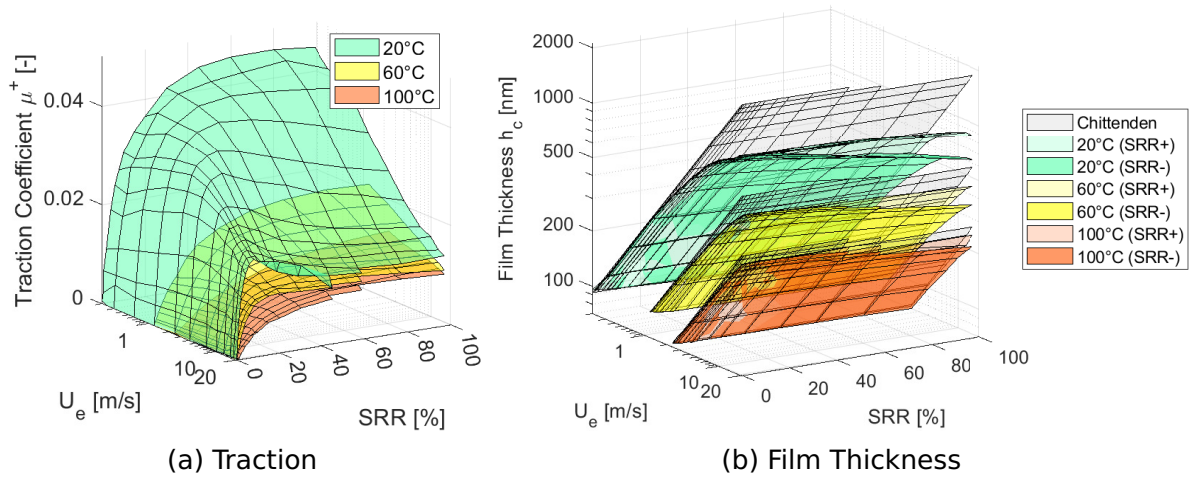


Figure 21: CHN 100R Group II

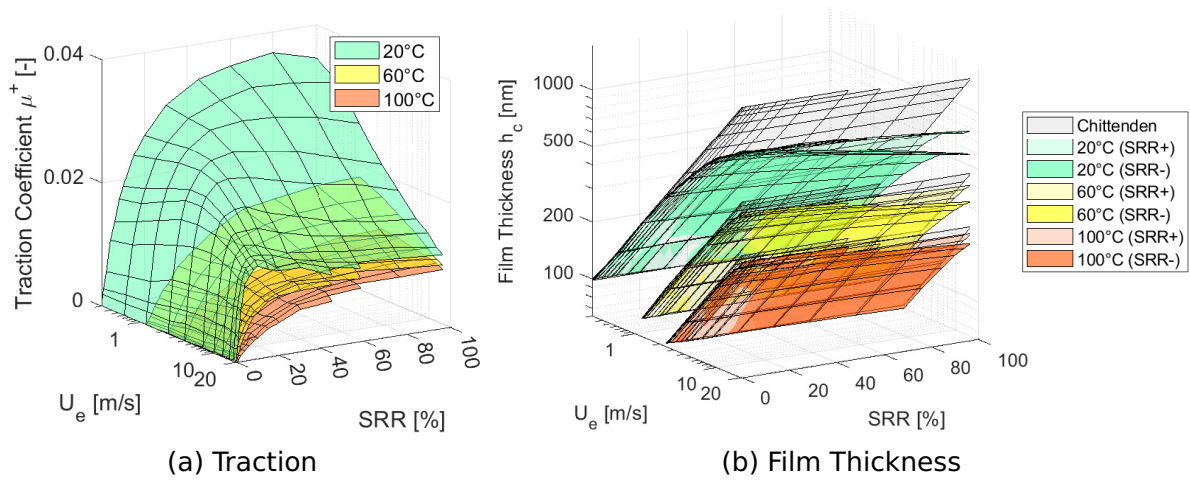


Figure 22: Yubase 4 Group III

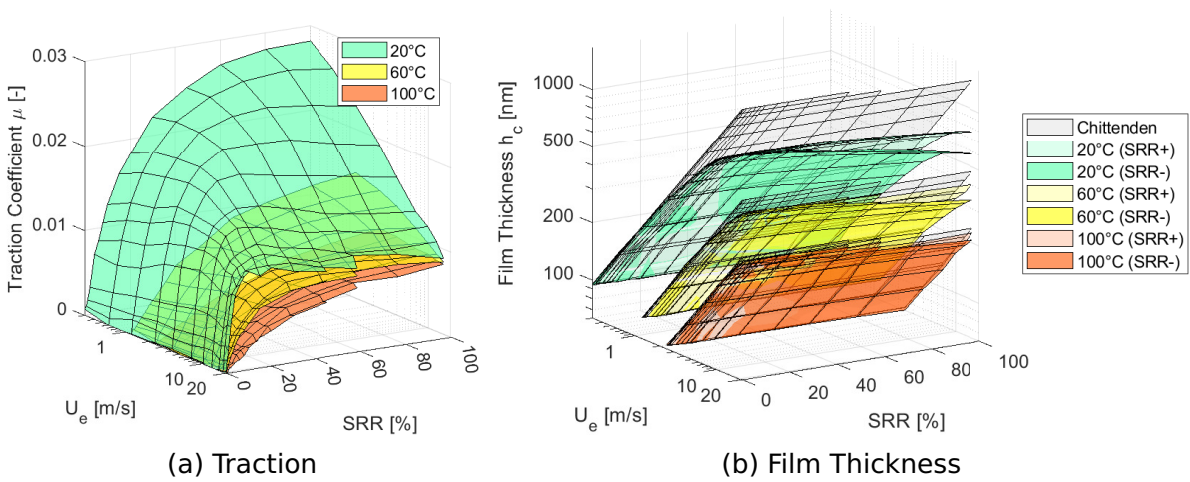


Figure 23: PAO4

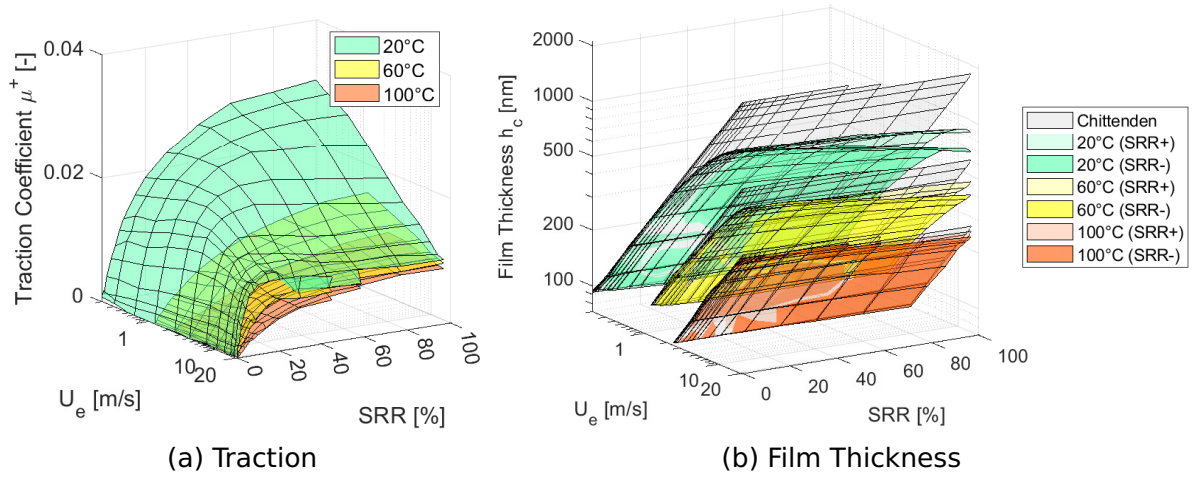


Figure 24: PAO5

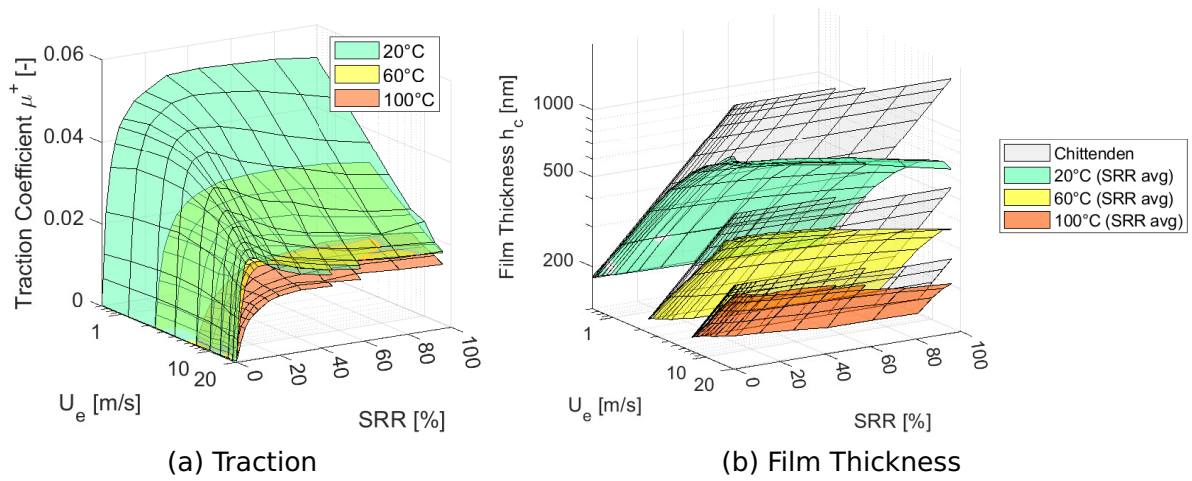


Figure 25: PAO5 Group IV on Sapphire Disc

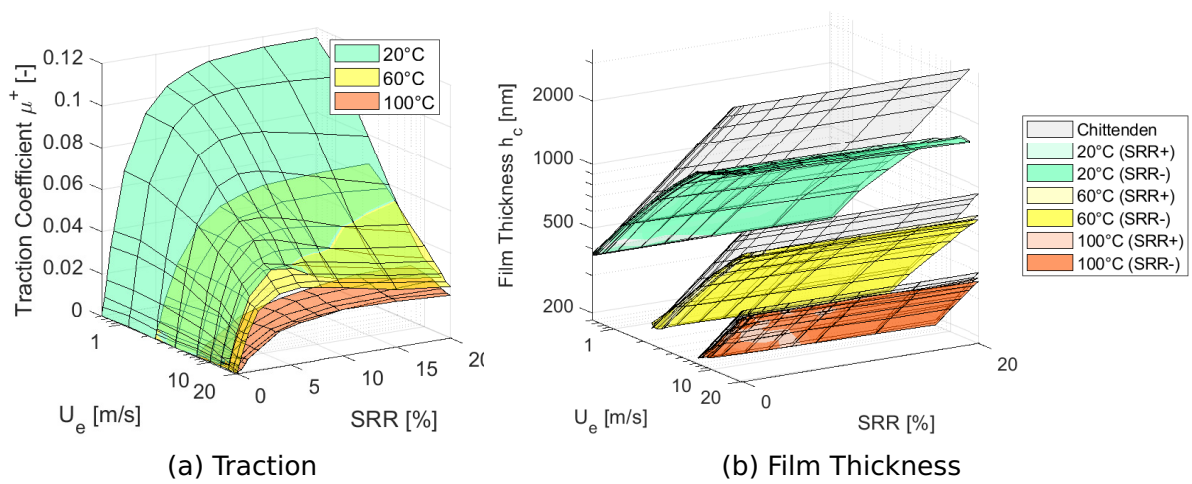


Figure 26: Santotrac 50