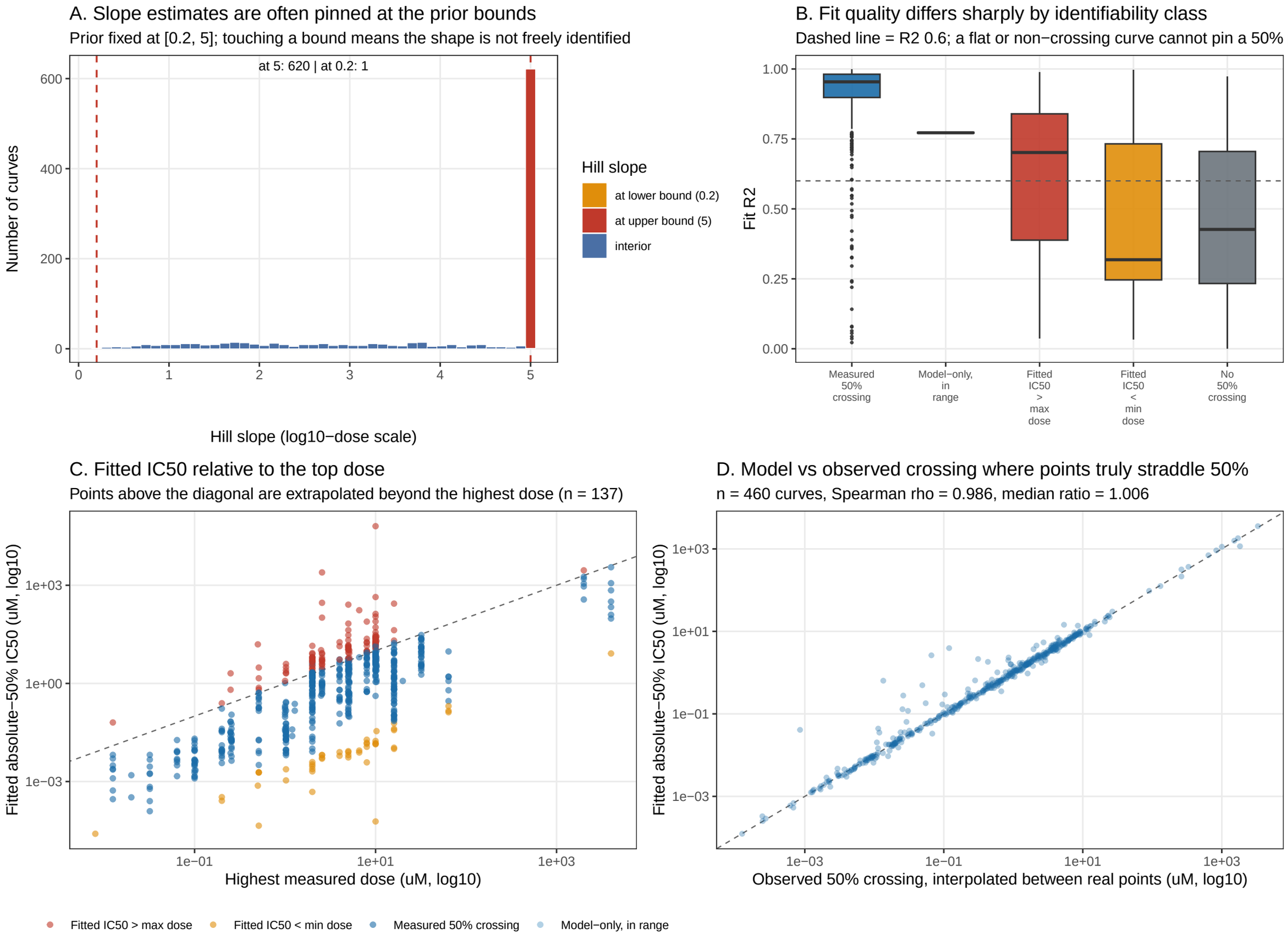

A. Slope estimates are often pinned at the prior bounds
Prior fixed at [0.2, 5]; touching a bound means the shape is not freely identified
at 5: 620 | at 0.2: 1
Number of curves
Hill slope (log10−dose scale)
Hill slope
at lower bound (0.2)
at upper bound (5)
interior
B. Fit quality differs sharply by identifiability class
Dashed line = R2 0.6; a flat or non−crossing curve cannot pin a 50% p
Fit R2
Measured 50% crossing
Model−only, in range
Fitted IC50 > max dose
Fitted IC50 < min dose
No 50% crossing
C. Fitted IC50 relative to the top dose
Points above the diagonal are extrapolated beyond the highest dose (n = 137)
Fitted absolute−50% IC50 (uM, log10)
Highest measured dose (uM, log10)
D. Model vs observed crossing where points truly straddle 50%
n = 460 curves, Spearman rho = 0.986, median ratio = 1.006
Fitted absolute−50% IC50 (uM, log10)
Observed 50% crossing, interpolated between real points (uM, log10)
Fitted IC50 > max dose
Fitted IC50 < min dose
Measured 50% crossing
Model−only, in range