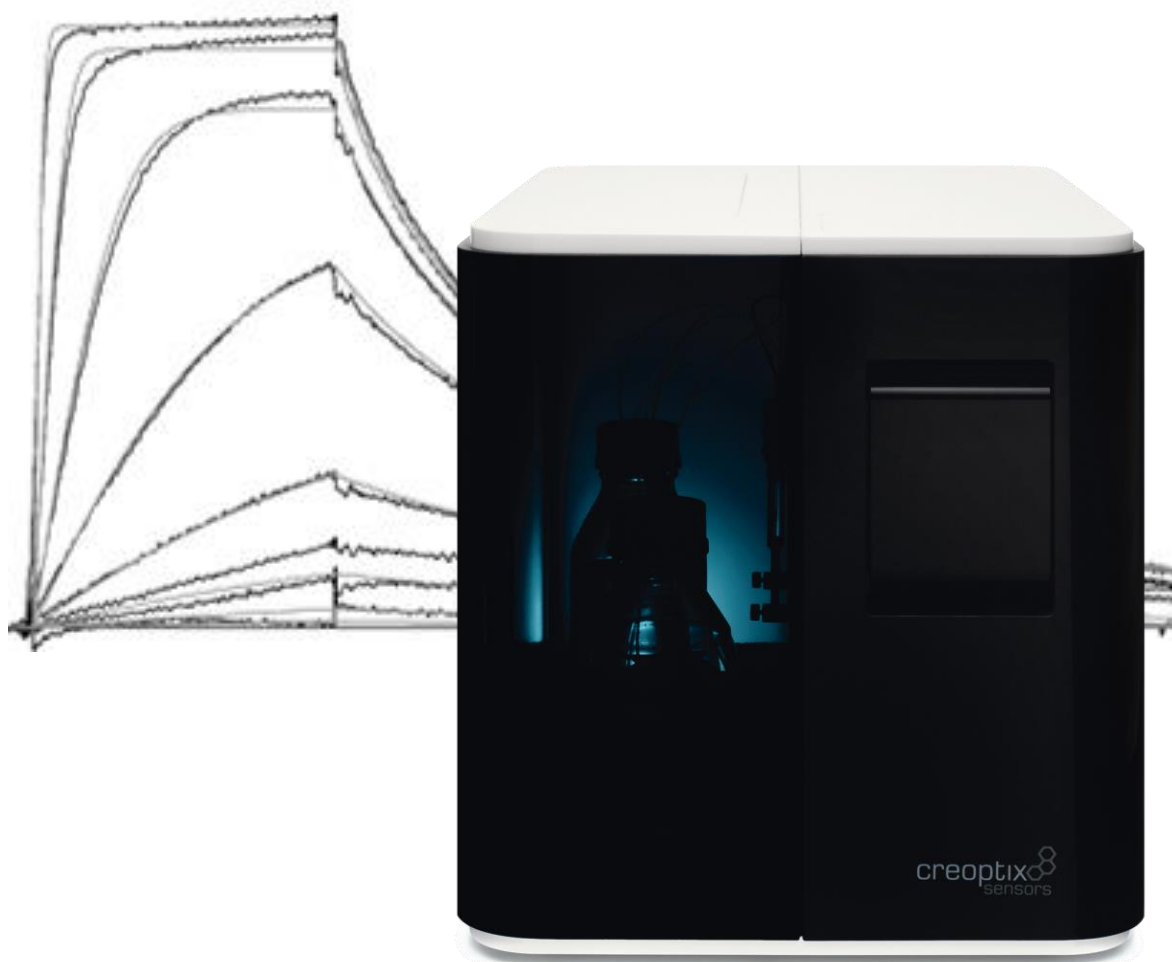


# Small-Molecule Kinetics

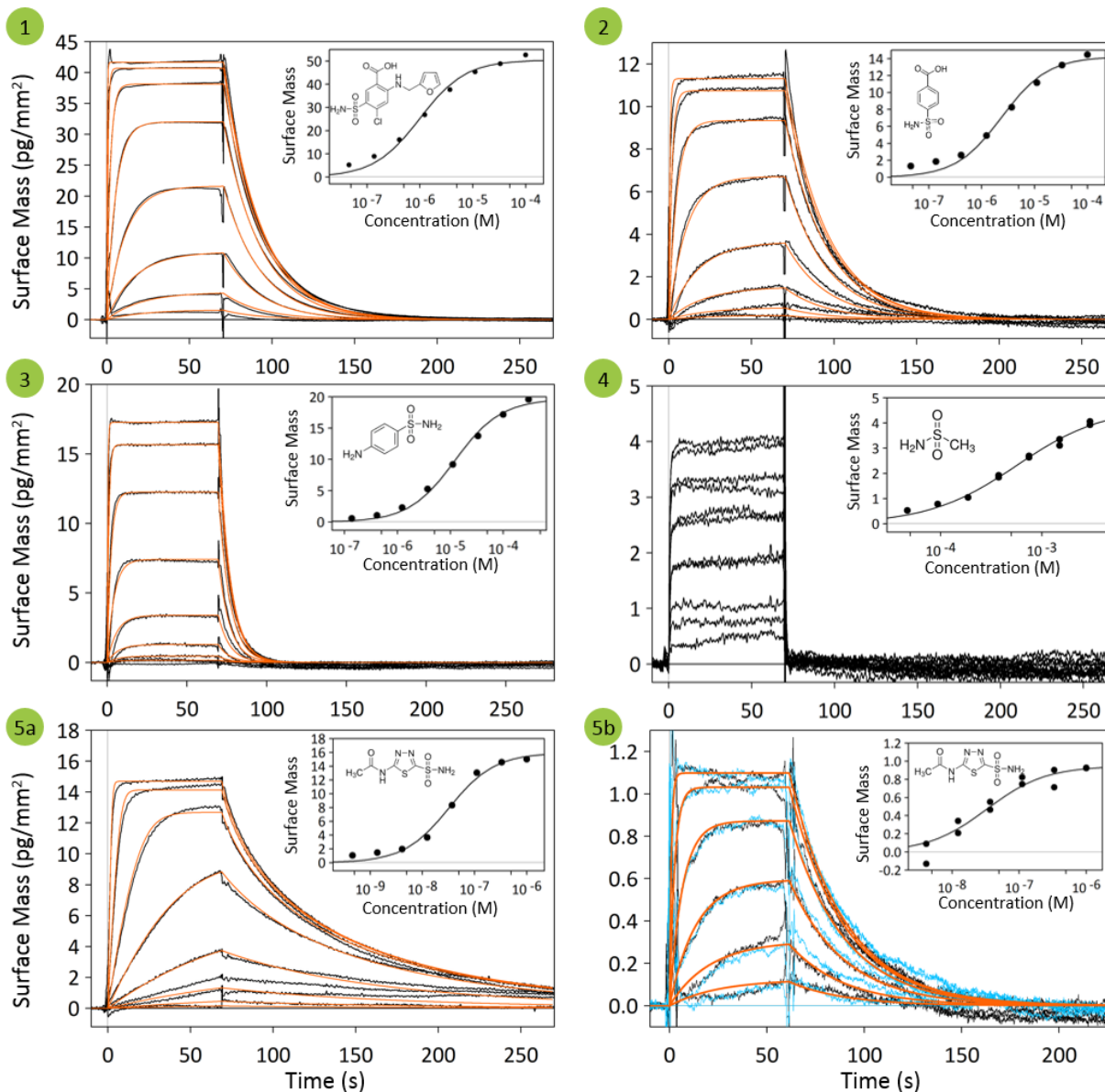
Creoptix™ WAVE



**Small molecules can't hide anymore.**

## Summary

Label-free interaction analysis of biomolecules at real-time using optical biosensors is a key technique in the drug discovery process. The screening of small-molecule binding to targets demands highest sensitivity. By measuring the binding kinetics of small molecule inhibitors of Carbonic Anhydrase II, we here show that the **Creoptix™ WAVE** system provides best-in-class sensitivity thanks to waveguide-based interferometry and achieves outstanding resolution at even very low signal levels. This demonstrates that the **Creoptix™ WAVE** system enables characterization of small and weakly binding molecules at high accuracy.



ID	Compound	Mw (Da)	Immobil. level (pg/mm <sup>2</sup> )	Kinetic determination				Equilibrium determ.		
				$k_{on}$ (M <sup>-1</sup> s <sup>-1</sup> )	$k_{off}$ (s <sup>-1</sup> )	$k_m$	$R_{max}$	$K_D$ (μM)	$R_{max}$	$K_D$ (μM)
1	Furosemide	330.74	6'000	$3.81 \times 10^4$	0.045	-	42.14	1.172	50.50	0.990
2	4-Sulfamoylbenz. acid	201.20	6'000	$1.49 \times 10^4$	0.0402	-	11.61	2.702	14.24	2.41
3	Sulfanilamide	172.20	6'000	$0.92 \times 10^4$	0.139	-	18.51	15.137	19.67	12.21
4	Methylsulfonamide	95.12	6'000	n.d.	n.d.	-	n.d.	n.d.	4.64	565
5a	Acetazolamide	222.25	6'000	$1.83 \times 10^6$	0.037	$8.26 \times 10^6$	14.99	0.020	15.93	0.033
5b	Acetazolamide	222.25	231	$1.192 \times 10^6$	0.039	-	1.234	0.033	1.430	0.024