

No.	Compound name	Reaction equation	pH	Rate constant (L mol ⁻¹ s ⁻¹)	Comments	Reference
7.1	Dichlorine radical ion	$\text{Cl}_2^{\bullet-} + \text{H}^{\bullet} \longrightarrow \text{H}^+ + 2 \text{Cl}^-$	~ 1	7×10^9	p.r.; Calcd. fit to d.k. at 340 nm in Ar-satd. soln. contg. 0.05 mol L ⁻¹ Cl ⁻ and 0.15 mol L ⁻¹ HClO ₄ ; assumed $G(\text{Cl}_2^{\bullet-}) = 2.9$, $G(\text{H}^{\bullet}) = 3.7$, $2k(\text{Cl}_2^{\bullet-} + \text{Cl}_2^{\bullet-}) = 4 \times 10^9$, $2k(\text{H}^{\bullet} + \text{H}^{\bullet}) = 2.2 \times 10^{10}$.	80A378
7.2	Dichlorine radical ion	$\text{Cl}_2^{\bullet-} + \cdot\text{OH} \longrightarrow \text{HOCl} + \text{Cl}^-$		1×10^9	f.p.; Data fitting using condy. data from solutions contg. HCl at pH 2-5 and assumed values for concurrent reactions.	86A368