

Supplemental materials

Table S1. Distances in angstroms between functional groups of *Luciola cruciata* luciferase E313 carboxylate and R339 guanidine groups and oxyluciferin phenolate.

Group	Oxy-OH	E313 OE ₁	E313 OE ₂	R339 NH ₁	R339 NH ₂
Oxy-OH E313	-	8.51	6.75	7.49	7.76
• OE1	8.51	-	-	2.96	5.13
• OE2	6.75	-	-	3.57	5.68
R339					
• NH1	7.49	2.96	3.57	-	-
• NH2	7.76	5.13	5.68	-	-