



BIOLOGICAL  
CRYSTALLOGRAPHY

**Volume 71 (2015)**

**Supporting information for article:**

**Intercalating dyes for enhanced contrast in second harmonic generation imaging of protein crystals**

**Justin A. Newman, Nicole M. Scarborough, Nicholas R. Pogradichniy, Rashmi K. Shrestha, Richard G. Closser, Chittaranjan Das and Garth J. Simpson**

0 $\mu$ M dye	1	2	3	4	5	6	7	8	9	10	11	12
	13	14	15	16	17	18	19	20	21	22	23	24
	25	26	27	28	29	30	31	32	33	34	35	36
	37	38	39	40	41	42	43	44	45	46	47	48
	49	50	51	52	53	54	55	56	57	58	59	60
	61	62	63	64	65	66	67	68	69	70	71	72
	73	74	75	76	77	78	79	80	81	82	83	84
	85	86	87	88	89	90	91	92	93	94	95	96
50 $\mu$ M MG	1	2	3	4	5	6	7	8	9	10	11	12
	13	14	15	16	17	18	19	20	21	22	23	24
	25	26	27	28	29	30	31	32	33	34	35	36
	37	38	39	40	41	42	43	44	45	46	47	48
	49	50	51	52	53	54	55	56	57	58	59	60
	61	62	63	64	65	66	67	68	69	70	71	72
	73	74	75	76	77	78	79	80	81	82	83	84
	85	86	87	88	89	90	91	92	93	94	95	96
Blue: crystal hit      Green: SHG enhanced crystal hit												

**Figure S1** Crystal screen hits from Proteinase K under normal conditions (0 $\mu$ M dye) and 50 $\mu$ M MG.

Two trials were performed for the 0 $\mu$ M dye set up with a total of 90 hits between them. There was a hit rate of 71.1% for crystallization with a variability of 28.9%. No crystals exhibited SHG. The 50 $\mu$ M trial resulted in 62 crystal hits of which 79% exhibited detectable SHG signal.

50 $\mu$ M CV	1	2	3	4	5	6	7	8	9	10	11	12
	13	14	15	16	17	18	19	20	21	22	23	24
	25	26	27	28	29	30	31	32	33	34	35	36
	37	38	39	40	41	42	43	44	45	46	47	48
	49	50	51	52	53	54	55	56	57	58	59	60
	61	62	63	64	65	66	67	68	69	70	71	72
	73	74	75	76	77	78	79	80	81	82	83	84
	85	86	87	88	89	90	91	92	93	94	95	96
50 $\mu$ M MG	1	2	3	4	5	6	7	8	9	10	11	12
	13	14	15	16	17	18	19	20	21	22	23	24
	25	26	27	28	29	30	31	32	33	34	35	36
	37	38	39	40	41	42	43	44	45	46	47	48
	49	50	51	52	53	54	55	56	57	58	59	60
	61	62	63	64	65	66	67	68	69	70	71	72
	73	74	75	76	77	78	79	80	81	82	83	84
	85	86	87	88	89	90	91	92	93	94	95	96

Blue: crystal hit      Green: SHG enhanced crystal hit

**Figure S2** Crystal screen hits from Proteinase K with the addition of either 50 $\mu$ M MG or 50 $\mu$ M CV. CV had a crystal hit rate of 39.7% while MG's crystal hit rate was 106.9%. The CV and MG resulted in 16 and 49 different conditions exhibiting detectable signal, respectively.