

Table S1. Environmental parameters (SO_2 concentration in $\mu\text{g}\cdot\text{m}^{-3}$, temperature T in $^{\circ}\text{C}$, relative humidity RH in %, pH of rain, rainfall amount per year r in $\text{mm}\cdot\text{a}^{-1}$) from 1325 to 2090 in Paris given by Brimblecombe and Lefèvre (2021) [36] and calculations of the thickness of the leached layer for medieval stained glass windows (L_{ND} in μm) based on Eq. (11). The parameters of the equation that depends on environmental data, and the values of leached layer thickness for each situation (rain, wet and vapour) are also given.

Year	SO_2 $\mu\text{g m}^{-3}$	T $^{\circ}\text{C}$	RH %	pH	r mm	Time year	x_r	x_w	x_v	D_r m^2/s	L_r μm	D_w m^2/s	L_w μm	D_v m^2/s	L_v μm	L_{ND} μm
1325	5	12.6	79	5.5	530											0.0
1375	6	12.5	79	5.5	535	50	0.05	0.25	0.70	$5.0\cdot 10^{-18}$	11.6	$1.2\cdot 10^{-18}$	12.2	$3.6\cdot 10^{-20}$	4.3	28.0
1425	6	12.4	79	5.5	540	50	0.05	0.25	0.70	$4.9\cdot 10^{-18}$	16.5	$1.2\cdot 10^{-18}$	17.2	$3.6\cdot 10^{-20}$	6.0	39.7
1475	6	12.4	79	5.5	545	50	0.06	0.25	0.69	$4.9\cdot 10^{-18}$	20.2	$1.2\cdot 10^{-18}$	21.0	$3.6\cdot 10^{-20}$	7.4	48.6
1525	7	12.9	79	5.5	550	50	0.06	0.25	0.69	$5.1\cdot 10^{-18}$	23.5	$1.2\cdot 10^{-18}$	24.4	$3.6\cdot 10^{-20}$	8.5	56.3
1575	15	12.7	79	5.5	555	50	0.06	0.25	0.69	$5.0\cdot 10^{-18}$	26.3	$1.2\cdot 10^{-18}$	27.3	$3.6\cdot 10^{-20}$	9.5	63.1
1625	20	12.7	79	5.5	560	50	0.06	0.25	0.69	$5.0\cdot 10^{-18}$	28.9	$1.2\cdot 10^{-18}$	29.9	$3.6\cdot 10^{-20}$	10.4	69.2
1675	40	13.1	78	5.5	565	50	0.06	0.25	0.69	$5.1\cdot 10^{-18}$	31.3	$1.2\cdot 10^{-18}$	32.3	$3.6\cdot 10^{-20}$	11.3	74.9
1725	65	13.1	78	5.5	570	50	0.06	0.25	0.69	$5.1\cdot 10^{-18}$	33.6	$1.2\cdot 10^{-18}$	34.6	$3.6\cdot 10^{-20}$	12.0	80.3
1775	70	13	78	5.5	575	50	0.06	0.25	0.69	$5.1\cdot 10^{-18}$	35.8	$1.2\cdot 10^{-18}$	36.7	$3.6\cdot 10^{-20}$	12.8	85.3
1825	75	13.6	78	5.5	580	50	0.06	0.25	0.69	$5.3\cdot 10^{-18}$	37.9	$1.2\cdot 10^{-18}$	38.8	$3.6\cdot 10^{-20}$	13.4	90.1
1850	80	13.5	78	5.5	580	25	0.06	0.25	0.69	$5.2\cdot 10^{-18}$	38.9	$1.2\cdot 10^{-18}$	39.8	$3.6\cdot 10^{-20}$	13.8	92.4
1870	120	13.7	78	5.5	580	20	0.06	0.25	0.69	$5.3\cdot 10^{-18}$	39.7	$1.3\cdot 10^{-18}$	40.6	$3.6\cdot 10^{-20}$	14.0	94.3
1890	130	13.6	78	5.5	579	20	0.06	0.25	0.69	$5.3\cdot 10^{-18}$	40.4	$1.2\cdot 10^{-18}$	41.3	$3.6\cdot 10^{-20}$	14.3	96.1
1910	150	13.6	77.6	4.5	587	20	0.06	0.25	0.69	$9.3\cdot 10^{-18}$	41.8	$1.2\cdot 10^{-18}$	42.1	$3.6\cdot 10^{-20}$	14.5	98.4
1930	220	13.7	77.2	4.5	625	20	0.06	0.25	0.69	$9.4\cdot 10^{-18}$	43.2	$1.3\cdot 10^{-18}$	42.8	$3.6\cdot 10^{-20}$	14.8	100.8
1950	225	13.8	76.8	4	618	20	0.06	0.25	0.69	$1.3\cdot 10^{-17}$	45.0	$1.3\cdot 10^{-18}$	43.6	$3.6\cdot 10^{-20}$	15.0	103.6
1970	133	13.7	71.4	4	624	20	0.06	0.25	0.69	$1.3\cdot 10^{-17}$	46.7	$1.3\cdot 10^{-18}$	44.3	$3.6\cdot 10^{-20}$	15.3	106.3
1990	36	13.9	76	5	620	20	0.06	0.25	0.69	$7.1\cdot 10^{-18}$	47.7	$1.3\cdot 10^{-18}$	45.0	$3.6\cdot 10^{-20}$	15.5	108.2
2010	17	14.3	75.6	5.2	652	20	0.07	0.25	0.68	$6.5\cdot 10^{-18}$	48.6	$1.3\cdot 10^{-18}$	45.7	$3.6\cdot 10^{-20}$	15.7	110.0
2030	12	14.6	75.2	5.5	637	20	0.06	0.25	0.69	$5.5\cdot 10^{-18}$	49.3	$1.3\cdot 10^{-18}$	46.4	$3.6\cdot 10^{-20}$	16.0	111.7
2050	10	15	74.8	5.5	637	20	0.06	0.25	0.69	$5.6\cdot 10^{-18}$	50.0	$1.3\cdot 10^{-18}$	47.1	$3.6\cdot 10^{-20}$	16.2	113.4
2070	10	15.3	74.4	5.5	637	20	0.06	0.25	0.69	$5.7\cdot 10^{-18}$	50.8	$1.4\cdot 10^{-18}$	47.9	$3.6\cdot 10^{-20}$	16.4	115.0
2090	10	15.7	74	5.5	637	20	0.06	0.25	0.69	$5.8\cdot 10^{-18}$	51.5	$1.4\cdot 10^{-18}$	48.6	$3.6\cdot 10^{-20}$	16.6	116.7