

Electronic Supplementary Information

Error Calculation Concerning Fig. 5

The data points leading to the confection of Fig. 5 were obtained, as mentioned in the paper, by assigning to any (pH, T_2) pair (measured during the reaction), the concentration value corresponding to the closest curve, in the interpolated surface. On the other hand, the standard procedure to estimate errors, is the error propagation. Given a function f of variables x_i , the errors in every variable are translated to an error in the function value, as

$$e_f = \left[\sum_i \frac{\partial f}{\partial x_i} e_{x_i} \right]^{1/2} \quad (1)$$

The idea is to assume the function as a hypersurface and to imagine any error in the variables as a differential change (leading to changes like $df_i = dx_i \partial f / \partial x_i$). To calculate such errors, it is necessary to explicitly know the functional form, $f(x_i)$. However, in our case we used a numerical version of the equation presented above: the assignment of a concentration value was done not only to the pairs (pH, T_2) but also to the pairs (pH $\pm e_{pH}$, $T_2 \pm e_{T_2}$), giving rise to four error in concentration values $e_C = C(\text{pH} \pm e_{pH}, T_2 \pm e_{T_2}) - C(\text{pH}, T_2)$. The maximum of those errors was chosen as the error in concentration. In this way, the effect of the T_2 surface details in different regions is taken into account.

Here we include a table with the data used to make Figure 5.

t_r [min.]	C [% v/v]	e_C	e_C/C [%]
5.2	5.17	0.25	4.8
11.18	4.83	0.08	1.7
17.25	4.7	0.1	2.1
21.75	4.7	0.2	4.3
25.75	4.7	0.2	4.3
30.25	4.5	0.2	4.4
40.75	4.3	0.1	2.3
47.58	4.3	0.1	2.3
59.67	4.1	0.1	2.4
90.67	3.4	0.1	2.9
120.67	2.7	0.09	3.3
160.43	2.0	0.1	5.0
300.33	0.53	0.02	3.8
431.75	0.09	1E-4	0.1
461.25	0.085	0.005	5.8
491.2	0.08	1E-4	0.125
919.8	0.04	1E-4	0.25