Table 2. Single grain ^{4}He diffusion data obtained from two Acapulco phosphate grains.

Step	Temp. (C)	Heating duration (hours)	^{4}He (ncc)	f_{cum}	$\ln(D/a^2)$	10000/Temp. (1/K)
Phosphate Grain 1						
Laser						
1	100	1.02	0.000117	1.3753E-05	-34.9862	26.80965
2	125	1.02	0.001772	2.9039E-05	-31.7917	25.12563
3	150	1.00	0.015547	0.00016318	-28.1010	23.64066
4	175	1.02	0.081291	0.00086458	-24.7868	22.32143
5	200	1.00	0.244287	0.00297235	-22.3527	21.14165
6	225	1.02	0.636731	0.00846621	-20.3189	20.08032
7	250	1.02	1.626224	0.02249767	-18.3854	19.12046
8	275	1.00	3.799304	0.05527899	-16.5662	18.24818
9	300	1.02	7.116156	0.11667892	-15.1210	17.45201
10	285	1.02	1.903155	0.13309981	-16.0357	17.92115
11	265	2.02	1.031620	0.14200088	-17.2252	18.58736
12	245	4.02	0.558740	0.14682182	-18.4725	19.30502
13	325	1.02	6.068151	0.19917931	-14.5049	16.72241
14	350	1.02	6.178890	0.25249228	-14.1690	16.05136
15	375	1.00	6.284857	0.30671955	-13.8659	15.43210
16	400	1.00	7.145669	0.36837413	-13.4838	14.85884
17	450	1.00	14.836600	0.49638793	-12.3803	13.83126
18	500	1.02	21.000330	0.6775839	-11.4843	12.93661
Resistance Furnace						
19	>500	6.02	32.489700	0.95791295	-11.5615	
20	>500	6.00	4.877823	1.0000000	-10.4709	
Phosphate Grain 2						
Laser						
1	100	1.00	0.000048	0.00000	-39.2827	26.8097
2	100	1.00	0.000382	0.00001	-34.9132	26.8097
3	125	1.02	0.001297	0.00002	-32.2017	25.1256
4	125	1.02	0.001390	0.00004	-31.3240	25.1256
5	150	1.00	0.007774	0.00014	-28.5237	23.6407
6	150	1.00	0.006201	0.00021	-28.0578	23.6407
7	175	1.02	0.038812	0.00070	-25.2815	22.3214
8	175	1.02	0.025737	0.00102	-25.0588	22.3214
9	200	1.00	0.112835	0.00242	-22.8674	21.1416
10	200	1.02	0.075236	0.00336	-22.7698	21.1416
11	225	1.00	0.288870	0.00696	-20.8288	20.0803
12	225	1.02	0.207493	0.00954	-20.7067	20.0803
13	235	1.02	0.319739	0.01352	-19.9392	19.6850
14	235	1.00	0.262394	0.01679	-19.8470	19.6850
15	245	1.02	0.428707	0.02213	-19.1227	19.3050
16	245	0.90	0.319469	0.02611	-19.0803	19.3050
17	255	1.02	0.603847	0.03363	-18.3517	18.9394
18	255	1.02	0.524482	0.04017	-18.2813	18.9394
19	265	1.02	0.803359	0.05017	-17.6163	18.5874
20	265	1.02	0.712676	0.05905	-17.5385	18.5874
21	250	2.02	0.512794	0.06544	-18.4155	19.1205
22	250	2.02	0.469635	0.07129	-18.4045	19.1205

23	240	2.02	0.242427	0.07431	-18.9992	19.4932
24	240	2.02	0.229175	0.07716	-19.0134	19.4932
25	230	2.02	0.117787	0.07863	-19.6491	19.8807
26	230	2.02	0.116014	0.08007	-19.6445	19.8807
27	220	4.00	0.116470	0.08153	-20.3060	20.2840
28	220	4.02	0.112103	0.08292	-20.3297	20.2840
29	230	1.00	0.073422	0.08384	-19.3475	19.8807
30	240	1.02	0.102727	0.08512	-19.0142	19.4932
31	250	1.02	0.187883	0.08746	-18.3877	19.1205
32	260	1.02	0.333312	0.09161	-17.7747	18.7617
33	270	1.02	0.559713	0.09858	-17.1913	18.4162
34	280	1.02	0.878171	0.10952	-16.6431	18.0832
35	290	1.02	1.267914	0.12531	-16.1431	17.7620
36	300	1.02	1.725973	0.14681	-15.6705	17.4520
37	310	1.00	2.143186	0.17350	-15.2522	17.1527
38	320	1.02	2.468689	0.20425	-14.9351	16.8634
39	330	1.00	2.697286	0.23785	-14.6412	16.5837
40	340	1.02	2.946623	0.27455	-14.3857	16.3132
41	350	1.02	3.069827	0.31279	-14.1681	16.0514
42	360	1.02	3.253815	0.35332	-13.9394	15.7978
43	370	1.02	3.321355	0.39469	-13.7538	15.5521
44	380	1.02	3.330533	0.43617	-13.5929	15.3139
45	390	1.02	3.432884	0.47893	-13.4081	15.0830
46	400	1.02	3.429511	0.52165	-13.2562	14.8588
47	410	1.02	3.359348	0.56349	-13.1273	14.6413
48	420	1.02	3.428892	0.60620	-12.9564	14.4300
49	430	1.02	3.466005	0.64937	-12.7897	14.2248
50	440	1.02	3.485696	0.69279	-12.6204	14.0252
51	450	1.02	3.593622	0.73755	-12.4124	13.8313
52	450	1.00	2.848225	0.77302	-12.4529	13.8313
53	450	1.00	2.205625	0.80050	-12.5562	13.8313
54	450	1.00	1.853720	0.82359	-12.5937	13.8313
55	450	1.00	1.640462	0.84402	-12.5844	13.8313
56	500	1.02	2.969905	0.88101	-11.7985	12.9366
57	500	1.00	1.843726	0.90398	-12.0177	12.9366
58	500	1.02	1.569860	0.92353	-11.9742	12.9366
59	500	1.02	1.455418	0.94166	-11.8017	12.9366
60	500	1.02	1.066819	0.95495	-11.8475	12.9366
61	500	1.00	0.819513	0.96515	-11.8370	12.9366
62	500	2.02	0.808940	0.97523	-12.2544	12.9366
63	500	2.02	0.509180	0.98157	-12.3976	12.9366
64	500	2.00	0.381177	0.98632	-12.3821	12.9366
65	500	2.02	0.336793	0.99051	-12.1840	12.9366
66	500	2.00	0.582415	0.99777	-10.8015	12.9366
67	500	2.02	0.179133	1.00000	-8.8755	12.9366

Regression Results

Steps used: 1~12 from Phosphate 1; 1~36 from Phosphate 2

Ea: 44.2 kcal/mol

$\ln(D_o/a2)$: 24.1 /s