A crystallographic study of the low-temperature dehydration products of gypsum, $CaSO_4 \cdot 2H_2O$: hemihydrate $CaSO_4 \cdot 0.50H_2O$, and γ-$CaSO_4$

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Abstract

The crystal structure of γ-$CaSO_4$ [a = 6.9694(8), c = 6.3033(4)Å; Z = 3; space group $P6_222$] has been refined from time-of-flight neutral powder diffraction data to agreement factors of 4.92 (weighted profile R) and 12.10 (Rietveld R). The observed neutron powder profile for hemihydrate ($CaSO_4 \cdot 0.50D_2O$) is qualitatively consistent with a model in which the water molecules occupy two different levels in the channels of a distorted γ-$CaSO_4$ framework. Hemihydrates formed by dehydration of gypsum ($CaSO_4 \cdot 2H_2O$) or synthesized from concentrated solutions of HNO_3 are monoclinic with space group $I2$ [a = 12.062(4), b = 12.660(3), c = 6.930(1)Å; $\gamma \cong 90°$]. Experimental data do not support the existence of a high-temperature trigonal form. Hemihydrate crystals grown in saturated NaCl solution contain ~0.50 wt.% Na_2O. The presence of Na stabilizes the structure and produces significant changes in the refractive indices and unit-cell parameters.

Introduction

Hemihydrate ($CaSO_4 \cdot 0.50H_2O$) and γ-$CaSO_4$ (soluble anhydrite) are the low-temperature (T < 383 K) dehydration products of gypsum ($CaSO_4 \cdot 2H_2O$). Hemihydrate, which occurs in nature as the mineral bassanite, is a very important raw material in the building industry where it is used principally in the manufacture of plaster and plasterboard. Recent experimental evidence suggests that its formation in geologic environments may have important implications with regard to the partitioning of seawater cations during the gypsum–anhydrite transformation (Kushnir, 1982). Heating hemihydrate to ~373–383 K produces γ-$CaSO_4$, a metastable phase which rehydrates rapidly under normal atmospheric conditions.

The major contributions to the crystallography of these phases were made by Gallitelli (1933), Flörke (1952) and Gay (1965a,b) (Table 1). Gallitelli (1933) was the first to propose a structural model for hemihydrate based on single-crystal X-ray data. He determined the space group and unit-cell parameters from Weissenberg methods and demonstrated that the structure was characterized by pseudo-trigonal channels which house the water molecules. He also observed that the structure was only slightly distorted from trigonal symmetry and therefore approximated it in terms of the space group $P3_121$. Flörke (1952) expanded upon the work (Gallitelli, 1933) and considered all dehydrated phases in the system $CaSO_4$–H_2O. His principal conclusions with respect to hemihy-

SAMPLE: Anhydrous "gamma"-CaSO4
INSTRUMENT: IPNS-I Time-of-Flight Special Environment Powder Diffractometer (SEPD)
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DIFFRACTOMETER CONSTANTS: C = 7469.754   A =   -2.710   Zero Point = -11.630
EXPERIMENTAL PARAMETERS: Channel Width =   5.000   Time Delay = 1500.000   Scattering Angle =   145.000

Observed (YOBS) and Calculated (YCALC) Data are listed by Time-of-Flight (TOF) in Microseconds and
d-Spacing (D) in Angstroms for consecutive 5.0 Microsecond-wide Time Channels.

Data with values for YOBS and YCALC of Zero have been Excluded from the Analysis.

TOF	D	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC
1500.0	0.2024	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1525.0	0.2057	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1550.0	0.2091	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1575.0	0.2124	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1600.0	0.2158	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1625.0	0.2191	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1650.0	0.2224	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1675.0	0.2259	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1700.0	0.2292	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1725.0	0.2325	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1750.0	0.2359	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1775.0	0.2392	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1800.0	0.2426	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1825.0	0.2459	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1850.0	0.2493	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1875.0	0.2526	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1900.0	0.2559	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1925.0	0.2593	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1950.0	0.2626	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1975.0	0.2659	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2000.0	0.2694	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2025.0	0.2727	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2050.0	0.2760	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2075.0	0.2794	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2100.0	0.2827	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2125.0	0.2860	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2150.0	0.2894	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2175.0	0.2928	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2200.0	0.2961	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2225.0	0.2995	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2250.0	0.3028	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2275.0	0.3061	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2300.0	0.3095	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2325.0	0.3128	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2350.0	0.3162	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2375.0	0.3195	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2400.0	0.3229	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2425.0	0.3262	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2450.0	0.3295	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2475.0	0.3330	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2500.0	0.3363	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOF	D	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC
2525.0	0.3396	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2550.0	0.3430	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2575.0	0.3463	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2600.0	0.3497	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2625.0	0.3530	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2650.0	0.3564	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2675.0	0.3597	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2700.0	0.3631	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2725.0	0.3664	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2750.0	0.3697	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2775.0	0.3731	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2800.0	0.3765	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2825.0	0.3798	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2850.0	0.3831	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2875.0	0.3865	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2900.0	0.3899	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2925.0	0.3931	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2950.0	0.3966	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2975.0	0.3999	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3000.0	0.4032	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3025.0	0.4066	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3050.0	0.4099	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3075.0	0.4133	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3100.0	0.4167	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3125.0	0.4200	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3150.0	0.4233	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3175.0	0.4267	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3200.0	0.4300	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3225.0	0.4333	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3250.0	0.4368	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3275.0	0.4401	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3300.0	0.4434	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3325.0	0.4468	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3350.0	0.4501	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3375.0	0.4534	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3400.0	0.4568	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3425.0	0.4602	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3450.0	0.4635	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3475.0	0.4668	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3500.0	0.4702	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3525.0	0.4735	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3550.0	0.4768	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3575.0	0.4803	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3600.0	0.4836	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3625.0	0.4869	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3650.0	0.4903	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3675.0	0.4936	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3700.0	0.4970	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3725.0	0.5003	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3750.0	0.5037	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3775.0	0.5070	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3800.0	0.5104	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3825.0	0.5137	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3850.0	0.5170	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOF	D	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC
3875.0	0.5204	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3900.0	0.5238	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3925.0	0.5271	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3950.0	0.5304	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3975.0	0.5338	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4000.0	0.5372	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4025.0	0.5404	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4050.0	0.5439	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4075.0	0.5472	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4100.0	0.5505	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4125.0	0.5539	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4150.0	0.5572	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4175.0	0.5606	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4200.0	0.5640	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4225.0	0.5673	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4250.0	0.5706	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4275.0	0.5740	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4300.0	0.5774	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4325.0	0.5806	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4350.0	0.5840	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4375.0	0.5874	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4400.0	0.5907	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4425.0	0.5940	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4450.0	0.5974	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4475.0	0.6008	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4500.0	0.6041	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4525.0	0.6075	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4550.0	0.6108	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4575.0	0.6141	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4600.0	0.6176	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4625.0	0.6208	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4650.0	0.6242	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4675.0	0.6276	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4700.0	0.6309	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4725.0	0.6342	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4750.0	0.6376	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4775.0	0.6410	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4800.0	0.6443	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4825.0	0.6476	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4850.0	0.6510	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4875.0	0.6543	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4900.0	0.6577	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4925.0	0.6610	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4950.0	0.6644	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4975.0	0.6677	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5000.0	0.6711	0.	0.	8647.	8754.	8467.	8691.	8590.	8619.	8245.	8540.
5025.0	0.6744	8238.	8470.	8017.	8407.	8168.	8348.	8143.	8289.	7971.	8230.
5050.0	0.6777	7996.	8165.	7801.	8100.	7899.	8034.	7539.	7969.	7722.	7907.
5075.0	0.6812	7530.	7848.	7553.	7797.	7655.	7752.	7586.	7713.	7590.	7677.
5100.0	0.6845	7588.	7649.	7591.	7623.	7739.	7602.	7579.	7582.	7737.	7572.
5125.0	0.6878	7642.	7567.	7587.	7579.	7541.	7599.	7419.	7646.	7519.	7706.
5150.0	0.6912	7612.	7783.	7642.	7868.	7948.	7951.	8015.	8023.	8186.	8075.
5175.0	0.6945	8305.	8097.	8342.	8081.	8215.	8030.	8170.	7955.	8053.	7856.
5200.0	0.6979	7800.	7741.	7610.	7619.	7407.	7498.	7369.	7384.	7106.	7275.

TOF	D	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC
5225.0	0.7012	7149.	7181.	7089.	7097.	6998.	7022.	6974.	6953.	6768.	6891.
5250.0	0.7046	6815.	6836.	6759.	6782.	6505.	6744.	6680.	6718.	6846.	6707.
5275.0	0.7079	6710.	6713.	6691.	6739.	6691.	6782.	6824.	6851.	6798.	6938.
5300.0	0.7113	6920.	7037.	7168.	7139.	7324.	7237.	7597.	7325.	7707.	7389.
5305.0	0.7146	7626.	7450.	7524.	7495.	7312.	7524.	7579.	7541.	7483.	7542.
5350.0	0.7179	7442.	7530.	7503.	7501.	7706.	7456.	7471.	7395.	7299.	7319.
5375.0	0.7213	7282.	7234.	6996.	7145.	6973.	7053.	6939.	6972.	6878.	6897.
5400.0	0.7247	6810.	6830.	6814.	6768.	6691.	6708.	6595.	6648.	6627.	6583.
5425.0	0.7280	6589.	6522.	6482.	6461.	6391.	6404.	6345.	6353.	6211.	6310.
5450.0	0.7313	6244.	6276.	6229.	6244.	6333.	6214.	6168.	6174.	6192.	6141.
5475.0	0.7347	6251.	6100.	6179.	6054.	6037.	6003.	5996.	5954.	5960.	5909.
5500.0	0.7381	5877.	5871.	5883.	5832.	6056.	5817.	5932.	5813.	5956.	5820.
5525.0	0.7413	6066.	5838.	5975.	5864.	5977.	5901.	6140.	5946.	6201.	5996.
5550.0	0.7448	6083.	6051.	6289.	6109.	6269.	6166.	6231.	6230.	6312.	6293.
5575.0	0.7481	6354.	6361.	6473.	6428.	6547.	6493.	6450.	6553.	6697.	6607.
5600.0	0.7514	6722.	6652.	6759.	6688.	6617.	6712.	6640.	6717.	6869.	6710.
5625.0	0.7548	6719.	6680.	6886.	6631.	6725.	6559.	6773.	6465.	6434.	6356.
5650.0	0.7581	6410.	6239.	6352.	6122.	6183.	6013.	6148.	5917.	6175.	5847.
5675.0	0.7615	5978.	5802.	6068.	5784.	6087.	5792.	6003.	5825.	5966.	5881.
5700.0	0.7649	6192.	5951.	6389.	6040.	6337.	6135.	6480.	6238.	6590.	6344.
5725.0	0.7682	6773.	6449.	6776.	6564.	6758.	6686.	6750.	6813.	6850.	6949.
5750.0	0.7715	6872.	7083.	7171.	7197.	7486.	7295.	7484.	7355.	7708.	7371.
5775.0	0.7749	7530.	7339.	7445.	7260.	7122.	7143.	6900.	7012.	6658.	6871.
5800.0	0.7783	6530.	6732.	6531.	6606.	6493.	6477.	6605.	6362.	6638.	6252.
5825.0	0.7816	6702.	6142.	6599.	6028.	6421.	5909.	6280.	5784.	6142.	5652.
5850.0	0.7849	5877.	5525.	5843.	5405.	5777.	5298.	5710.	5208.	5420.	5143.
5875.0	0.7883	5442.	5108.	5399.	5095.	5364.	5131.	5254.	5203.	5497.	5306.
5900.0	0.7916	5618.	5433.	5689.	5577.	5994.	5726.	6113.	5871.	6204.	5984.
5925.0	0.7949	6294.	6102.	6199.	6201.	6238.	6275.	6251.	6322.	6265.	6342.
5950.0	0.7984	6385.	6332.	6289.	6289.	6127.	6211.	6148.	6104.	5911.	5967.
5975.0	0.8017	5654.	5809.	5618.	5638.	5358.	5452.	5199.	5277.	4958.	5109.
6000.0	0.8050	5004.	4953.	4836.	4813.	4692.	4689.	4595.	4580.	4490.	4486.
6025.0	0.8084	4399.	4401.	4468.	4329.	4310.	4261.	4301.	4199.	4376.	4142.
6050.0	0.8117	4239.	4088.	4197.	4038.	4243.	3994.	4171.	3960.	4097.	3935.
6075.0	0.8151	4081.	3919.	4215.	3940.	4165.	3989.	4141.	4070.	4090.	4192.
6100.0	0.8185	4223.	4353.	4396.	4549.	4618.	4763.	4813.	5001.	5144.	5237.
6125.0	0.8218	5497.	5444.	5788.	5619.	6019.	5740.	5896.	5801.	5799.	5800.
6150.0	0.8251	5582.	5743.	5602.	5641.	5257.	5508.	5136.	5356.	5030.	5202.
6175.0	0.8285	4933.	5053.	4680.	4919.	4644.	4801.	4620.	4701.	4587.	4616.
6200.0	0.8319	4539.	4549.	4458.	4495.	4407.	4453.	4376.	4423.	4200.	4403.
6225.0	0.8351	4260.	4392.	4287.	4388.	4256.	4387.	4255.	4388.	4353.	4385.
6250.0	0.8385	4295.	4377.	4234.	4360.	4303.	4335.	4295.	4303.	4101.	4265.
6275.0	0.8419	4110.	4224.	4032.	4182.	4102.	4142.	3598.	4100.	3988.	4050.
6300.0	0.8452	4017.	4018.	3957.	3983.	3993.	3943.	3896.	3903.	4024.	3860.
6325.0	0.8485	3963.	3816.	3810.	3772.	3693.	3730.	3645.	3694.	3669.	3664.
6350.0	0.8519	3639.	3639.	3605.	3622.	3669.	3610.	3714.	3598.	3621.	3591.
6375.0	0.8553	3675.	3586.	3602.	3582.	3741.	3580.	3654.	3582.	3582.	3592.
6400.0	0.8586	3544.	3611.	3478.	3637.	3465.	3674.	3595.	3719.	3639.	3767.
6425.0	0.8620	3757.	3809.	3736.	3844.	3956.	3865.	3842.	3869.	3753.	3856.
6450.0	0.8653	3821.	3827.	3620.	3786.	3594.	3739.	3535.	3690.	3445.	3643.
6475.0	0.8686	3388.	3598.	3387.	3564.	3309.	3537.	3301.	3516.	3339.	3499.
6500.0	0.8721	3383.	3484.	3356.	3470.	3280.	3457.	3224.	3444.	3274.	3432.
6525.0	0.8753	3202.	3423.	3164.	3417.	3198.	3412.	3224.	3415.	3235.	3423.
6550.0	0.8787	3238.	3436.	3150.	3453.	3366.	3475.	3189.	3499.	3216.	3525.

TOF	D	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC
6575.0	0.8821	3229.	3551.	3242.	3576.	3510.	3597.	3455.	3613.	3465.	3623.
6600.0	0.8854	3379.	3626.	3392.	3628.	3440.	3632.	3430.	3638.	3431.	3646.
6625.0	0.8887	3466.	3657.	3475.	3670.	3580.	3684.	3591.	3694.	3762.	3699.
6650.0	0.8921	3778.	3696.	3744.	3683.	3591.	3659.	3645.	3622.	3443.	3579.
6675.0	0.8955	3471.	3530.	3461.	3477.	3275.	3420.	3319.	3361.	3354.	3303.
6700.0	0.8988	3160.	3244.	3151.	3187.	3061.	3132.	3065.	3077.	3080.	3030.
6725.0	0.9021	2989.	2987.	2901.	2951.	2946.	2923.	2859.	2902.	2767.	2890.
6750.0	0.9055	2832.	2886.	2859.	2889.	2838.	2892.	2857.	2906.	2919.	2921.
6775.0	0.9088	2901.	2935.	2993.	2947.	3027.	2953.	3034.	2953.	2990.	2945.
6800.0	0.9122	2914.	2930.	2926.	2906.	2702.	2876.	2722.	2848.	2731.	2820.
6825.0	0.9155	2670.	2797.	2769.	2781.	2827.	2780.	2697.	2798.	2708.	2839.
6850.0	0.9189	2823.	2906.	2832.	3002.	2914.	3125.	3009.	3275.	3132.	3443.
6875.0	0.9222	3338.	3619.	3480.	3792.	3783.	3948.	3884.	4076.	4102.	4164.
6900.0	0.9256	4034.	4208.	3880.	4206.	3886.	4161.	3740.	4080.	3679.	3972.
6925.0	0.9289	3481.	3847.	3391.	3715.	3144.	3583.	3384.	3455.	3183.	3339.
6950.0	0.9322	3157.	3234.	2968.	3140.	2822.	3056.	2931.	2979.	2976.	2911.
6975.0	0.9357	2703.	2848.	2780.	2790.	2695.	2735.	2654.	2683.	2623.	2634.
7000.0	0.9390	2648.	2589.	2563.	2548.	2569.	2512.	2497.	2482.	2456.	2458.
7025.0	0.9423	2437.	2441.	2481.	2430.	2489.	2426.	2504.	2428.	2492.	2436.
7050.0	0.9457	2517.	2452.	2484.	2475.	2671.	2509.	2571.	2541.	2648.	2611.
7075.0	0.9491	2667.	2704.	2772.	2826.	2865.	2979.	2972.	3164.	3029.	3378.
7100.0	0.9524	3322.	3614.	3659.	3860.	3984.	4102.	4490.	4324.	4828.	4511.
7125.0	0.9558	5006.	4653.	5120.	4739.	4956.	4768.	4931.	4743.	4643.	4668.
7150.0	0.9591	4596.	4559.	4280.	4424.	4025.	4276.	4003.	4126.	3929.	3981.
7175.0	0.9624	3620.	3848.	3585.	3728.	3447.	3621.	3368.	3527.	3353.	3441.
7200.0	0.9658	3200.	3361.	3196.	3283.	3135.	3205.	3153.	3124.	3033.	3040.
7225.0	0.9691	3001.	2954.	2810.	2864.	2767.	2776.	2674.	2692.	2744.	2611.
7250.0	0.9725	2593.	2538.	2560.	2473.	2376.	2419.	2342.	2375.	2425.	2344.
7275.0	0.9758	2505.	2324.	2391.	2316.	2374.	2317.	2294.	2313.	2309.	2328.
7300.0	0.9792	2296.	2335.	2361.	2352.	2502.	2365.	2495.	2372.	2499.	2367.
7325.0	0.9825	2485.	2358.	2408.	2341.	2407.	2319.	2304.	2294.	2328.	2269.
7350.0	0.9858	2307.	2246.	2331.	2228.	2353.	2215.	2345.	2214.	2320.	2223.
7375.0	0.9893	2364.	2240.	2279.	2264.	2401.	2290.	2374.	2321.	2368.	2351.
7400.0	0.9926	2516.	2377.	2643.	2397.	2626.	2410.	2503.	2418.	2634.	2422.
7425.0	0.9959	2592.	2426.	2558.	2435.	2488.	2452.	2466.	2484.	2518.	2532.
7450.0	0.9993	2535.	2599.	2612.	2684.	2647.	2785.	2830.	2897.	2979.	3017.
7475.0	1.0026	3097.	3136.	3225.	3249.	3369.	3345.	3414.	3429.	3486.	3491.
7500.0	1.0060	3596.	3529.	3794.	3541.	3674.	3530.	3686.	3497.	3561.	3444.
7525.0	1.0093	3372.	3375.	3397.	3296.	3277.	3210.	3248.	3121.	3132.	3034.
7550.0	1.0127	2957.	2952.	2887.	2877.	2824.	2812.	2737.	2756.	2836.	2712.
7575.0	1.0160	2742.	2674.	2775.	2653.	2804.	2642.	2656.	2647.	2740.	2667.
7600.0	1.0194	2736.	2705.	2704.	2764.	2795.	2843.	2863.	2943.	2830.	3059.
7625.0	1.0227	2918.	3186.	3129.	3316.	3294.	3439.	3439.	3544.	3588.	3623.
7650.0	1.0260	3678.	3668.	3606.	3666.	3617.	3636.	3430.	3569.	3361.	3472.
7675.0	1.0294	3254.	3354.	3099.	3218.	2920.	3084.	2875.	2953.	2795.	2837.
7700.0	1.0328	2676.	2740.	2566.	2665.	2584.	2616.	2553.	2591.	2524.	2595.
7725.0	1.0361	2579.	2624.	2622.	2675.	2674.	2743.	2820.	2823.	2828.	2907.
7750.0	1.0394	3015.	2989.	3179.	3062.	3120.	3117.	3182.	3157.	3338.	3178.
7775.0	1.0428	3122.	3180.	3124.	3166.	3012.	3139.	3013.	3103.	2991.	3061.
7800.0	1.0462	2908.	3018.	2907.	2975.	2833.	2931.	2897.	2888.	2749.	2842.
7825.0	1.0495	2776.	2777.	2795.	2726.	2842.	2669.	2841.	2605.	2724.	2535.
7850.0	1.0529	2562.	2459.	2515.	2380.	2433.	2298.	2343.	2215.	2196.	2135.
7875.0	1.0562	2134.	2058.	2086.	1986.	2064.	1920.	1966.	1862.	1988.	1812.
7900.0	1.0595	1866.	1769.	1834.	1738.	1838.	1718.	1835.	1709.	1866.	1714.

TOF	D	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC
7925.0	1.0629	1817.	1732.	1778.	174.	1795.	1797.	1908.	1858.	1893.	1930.
7950.0	1.0663	2025.	2010.	2082.	2094.	2191.	2179.	2272.	2259.	2281.	2331.
7975.0	1.0696	2445.	2391.	2378.	2435.	2439.	2458.	2472.	2468.	2514.	2460.
8000.0	1.0730	2462.	2435.	2346.	2396.	2356.	2346.	2406.	2282.	2215.	2218.
8025.0	1.0763	2200.	2152.	2091.	2087.	2048.	2026.	2044.	1973.	1964.	1928.
8050.0	1.0796	1899.	1895.	1867.	1873.	1842.	1864.	1851.	1867.	1931.	1881.
8075.0	1.0830	2017.	1906.	2044.	1940.	2075.	1983.	2015.	2034.	2032.	2090.
8100.0	1.0864	2170.	2150.	2229.	2212.	2269.	2273.	2346.	2329.	2401.	2376.
8125.0	1.0897	2488.	2412.	2554.	2432.	2478.	2435.	2518.	2420.	2554.	2387.
8150.0	1.0930	2506.	2331.	2356.	2270.	2239.	2199.	2193.	2123.	2063.	2046.
8175.0	1.0964	1988.	1971.	1946.	1898.	1911.	1837.	1867.	1786.	1797.	1744.
8200.0	1.0998	1756.	1711.	1772.	1688.	1777.	1672.	1782.	1661.	1730.	1654.
8225.0	1.1030	1735.	1648.	1875.	1642.	1803.	1635.	1850.	1627.	1716.	1617.
8250.0	1.1065	1798.	1606.	1766.	1597.	1684.	1592.	1675.	1591.	1737.	1604.
8275.0	1.1098	1721.	1629.	1634.	1671.	1746.	1728.	1784.	1803.	1876.	1894.
8300.0	1.1131	2041.	1996.	2050.	2107.	2190.	2212.	2307.	2322.	2399.	2422.
8325.0	1.1165	2572.	2506.	2615.	2571.	2532.	2614.	2538.	2634.	2617.	2633.
8350.0	1.1198	2447.	2612.	2398.	2575.	2431.	2525.	2366.	2465.	2349.	2396.
8375.0	1.1232	2220.	2322.	2139.	2243.	2110.	2162.	2040.	2080.	1941.	1997.
8400.0	1.1266	1910.	1916.	1823.	1838.	1750.	1763.	1735.	1690.	1611.	1627.
8425.0	1.1299	1702.	1570.	1675.	1522.	1558.	1483.	1551.	1455.	1478.	1439.
8450.0	1.1332	1617.	1437.	1555.	1450.	1574.	1480.	1561.	1529.	1692.	1596.
8475.0	1.1367	1683.	1682.	1813.	1784.	1799.	1901.	1964.	2027.	2154.	2160.
8500.0	1.1400	2246.	2294.	2339.	2412.	2469.	2537.	2625.	2651.	2709.	2753.
8525.0	1.1433	2814.	2842.	2791.	2917.	2760.	2978.	2752.	3025.	2918.	3056.
8550.0	1.1467	3021.	3070.	3037.	3062.	3053.	3038.	3040.	2993.	2956.	2927.
8575.0	1.1500	2967.	2842.	2837.	2740.	2691.	2626.	2481.	2503.	2349.	2378.
8600.0	1.1534	2281.	2256.	2176.	2141.	2068.	2038.	2017.	1950.	1958.	1881.
8625.0	1.1566	1849.	1831.	1854.	1802.	1843.	1793.	1877.	1802.	1895.	1828.
8650.0	1.1601	1957.	1868.	1968.	1917.	2090.	1971.	2141.	2028.	2339.	2081.
8675.0	1.1634	2393.	2129.	2429.	2169.	2424.	2199.	2400.	2206.	2393.	2215.
8700.0	1.1667	2291.	2213.	2263.	2199.	2194.	2174.	2249.	2140.	2250.	2097.
8725.0	1.1701	2145.	2045.	2044.	1985.	1974.	1920.	1905.	1850.	1806.	1766.
8750.0	1.1734	1772.	1694.	1677.	1623.	1592.	1554.	1608.	1490.	1527.	1430.
8775.0	1.1768	1478.	1377.	1401.	1332.	1341.	1293.	1326.	1263.	1264.	1241.
8800.0	1.1802	1326.	1227.	1318.	1220.	1300.	1220.	1341.	1225.	1368.	1234.
8825.0	1.1835	1304.	1247.	1397.	1260.	1388.	1272.	1395.	1282.	1422.	1289.
8850.0	1.1868	1400.	1287.	1440.	1284.	1421.	1270.	1425.	1257.	1354.	1239.
8875.0	1.1902	1366.	1218.	1298.	1194.	1307.	1169.	1229.	1144.	1234.	1120.
8900.0	1.1936	1216.	1096.	1138.	1070.	1090.	1051.	1182.	1034.	1075.	1020.
8925.0	1.1969	1071.	1008.	1017.	1000.	1112.	994.	1024.	993.	1095.	995.
8950.0	1.2003	1105.	1002.	1085.	1015.	1083.	1032.	1045.	1055.	1054.	1083.
8975.0	1.2036	1087.	1115.	1099.	1151.	1221.	1190.	1259.	1230.	1270.	1270.
9000.0	1.2069	1325.	1309.	1315.	1345.	1404.	1379.	1380.	1411.	1357.	1441.
9025.0	1.2103	1428.	1469.	1373.	1493.	1359.	1520.	1392.	1547.	1403.	1572.
9050.0	1.2137	1393.	1594.	1471.	1613.	1518.	1626.	1542.	1632.	1540.	1629.
9075.0	1.2170	1532.	1617.	1496.	1596.	1445.	1565.	1386.	1527.	1417.	1483.
9100.0	1.2203	1385.	1435.	1277.	1385.	1319.	1335.	1231.	1287.	1206.	1241.
9125.0	1.2237	1182.	1200.	1182.	1163.	1136.	1132.	1117.	1106.	1134.	1086.
9150.0	1.2270	1165.	1072.	1181.	1064.	1159.	1063.	1114.	1069.	1159.	1082.
9175.0	1.2304	1157.	1103.	1266.	1132.	1281.	1170.	1317.	1214.	1478.	1272.
9200.0	1.2338	1542.	1340.	1583.	1418.	1708.	1507.	1686.	1605.	1859.	1712.
9225.0	1.2371	1945.	1825.	1968.	1940.	2154.	2053.	2211.	2158.	2402.	2251.
9250.0	1.2404	2529.	2326.	2581.	2374.	2711.	2401.	2659.	2402.	2619.	2375.

TOF	D	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC
9275.0	1.2438	2556.	2323.	2338.	2249.	2168.	2157.	2090.	2053.	1903.	1941.
9300.0	1.2472	1800.	1827.	1589.	1713.	1530.	1603.	1491.	1501.	1421.	1406.
9325.0	1.2504	1341.	1320.	1304.	1244.	1211.	1176.	1122.	1117.	1134.	1066.
9350.0	1.2539	1067.	1022.	1044.	984.	1042.	951.	1040.	924.	986.	902.
9375.0	1.2572	964.	884.	971.	871.	935.	862.	956.	859.	948.	858.
9400.0	1.2605	963.	866.	939.	880.	941.	900.	1009.	926.	872.	959.
9425.0	1.2639	945.	996.	1033.	1037.	1085.	1080.	1100.	1123.	1143.	1151.
9450.0	1.2672	1117.	1188.	1283.	1219.	1191.	1240.	1309.	1252.	1274.	1253.
9475.0	1.2706	1293.	1245.	1234.	1228.	1154.	1203.	1179.	1172.	1073.	1136.
9500.0	1.2739	1010.	1098.	1056.	1059.	1040.	1021.	955.	984.	903.	950.
9525.0	1.2773	853.	918.	903.	891.	894.	866.	865.	846.	861.	829.
9550.0	1.2806	829.	816.	803.	807.	878.	802.	854.	801.	885.	804.
9575.0	1.2840	857.	812.	825.	825.	845.	842.	916.	863.	911.	889.
9600.0	1.2874	956.	920.	960.	955.	947.	996.	1046.	1041.	1118.	1091.
9625.0	1.2907	1093.	1147.	1273.	1209.	1207.	1274.	1288.	1344.	1407.	1411.
9650.0	1.2940	1508.	1483.	1580.	1551.	1659.	1614.	1758.	1666.	1877.	1707.
9675.0	1.2974	1916.	1732.	1881.	1741.	1922.	1733.	1857.	1709.	1759.	1671.
9700.0	1.3008	1724.	1620.	1557.	1560.	1566.	1495.	1437.	1426.	1376.	1358.
9725.0	1.3040	1304.	1292.	1210.	1231.	1196.	1176.	1086.	1128.	1123.	1087.
9750.0	1.3075	1072.	1054.	979.	1029.	1014.	1010.	1010.	999.	1057.	994.
9775.0	1.3108	992.	995.	999.	1002.	976.	1015.	955.	1032.	976.	1053.
9800.0	1.3141	1020.	1077.	1078.	1101.	1140.	1124.	1073.	1145.	1179.	1163.
9825.0	1.3175	1243.	1175.	1195.	1180.	1192.	1177.	1193.	1167.	1089.	1149.
9850.0	1.3208	1074.	1124.	1011.	1094.	1027.	1059.	1045.	1014.	884.	976.
9875.0	1.3242	890.	938.	892.	900.	821.	865.	796.	832.	778.	802.
9900.0	1.3275	826.	774.	757.	750.	730.	729.	750.	710.	688.	694.
9925.0	1.3309	691.	681.	755.	670.	719.	661.	710.	654.	674.	650.
9950.0	1.3342	666.	648.	681.	648.	687.	649.	668.	654.	678.	660.
9975.0	1.3376	716.	667.	723.	676.	741.	685.	750.	695.	736.	705.
10000.0	1.3410	793.	715.	836.	725.	823.	735.	795.	742.	804.	755.
10025.0	1.3443	816.	771.	831.	790.	804.	813.	826.	841.	826.	875.
10050.0	1.3476	845.	915.	922.	960.	914.	1009.	1007.	1060.	1048.	1112.
10075.0	1.3510	1046.	1161.	1140.	1205.	1186.	1242.	1205.	1270.	1261.	1286.
10100.0	1.3544	1278.	1291.	1145.	1283.	1221.	1264.	1121.	1235.	1065.	1197.
10125.0	1.3576	1086.	1153.	976.	1104.	959.	1053.	847.	1002.	871.	951.
10150.0	1.3611	807.	903.	739.	858.	719.	817.	700.	779.	642.	745.
10175.0	1.3644	671.	716.	646.	689.	621.	666.	587.	646.	596.	629.
10200.0	1.3677	585.	613.	550.	600.	595.	588.	553.	578.	543.	570.
10225.0	1.3711	515.	562.	579.	556.	557.	550.	549.	545.	549.	541.
10250.0	1.3744	544.	537.	542.	534.	495.	532.	498.	530.	558.	528.
10275.0	1.3778	518.	527.	507.	527.	518.	521.	502.	522.	541.	524.
10300.0	1.3812	519.	525.	510.	527.	511.	529.	510.	530.	503.	532.
10325.0	1.3845	463.	533.	515.	534.	489.	534.	532.	534.	513.	533.
10350.0	1.3878	504.	533.	497.	532.	455.	531.	527.	530.	476.	530.
10375.0	1.3912	519.	529.	492.	529.	499.	530.	476.	531.	509.	532.
10400.0	1.3946	498.	533.	466.	534.	485.	535.	492.	536.	507.	537.
10425.0	1.3979	458.	536.	477.	535.	465.	533.	506.	531.	473.	528.
10450.0	1.4012	454.	524.	472.	520.	483.	516.	482.	511.	464.	507.
10475.0	1.4046	480.	502.	503.	498.	406.	494.	452.	490.	438.	486.
10500.0	1.4080	459.	483.	438.	480.	394.	477.	449.	474.	408.	472.
10525.0	1.4112	434.	469.	462.	467.	425.	466.	427.	464.	403.	462.
10550.0	1.4147	411.	461.	403.	459.	447.	458.	434.	457.	403.	455.
10575.0	1.4180	463.	454.	409.	453.	390.	452.	442.	451.	410.	450.
10600.0	1.4213	422.	449.	412.	448.	404.	447.	399.	445.	396.	444.

TOF	D	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC
10625.0	1.4247	387.	443.	387.	442.	386.	442.	398.	441.	401.	440.
10650.0	1.4280	394.	439.	403.	438.	398.	437.	394.	436.	401.	435.
10675.0	1.4314	386.	434.	403.	433.	415.	433.	390.	432.	379.	431.
10700.0	1.4348	391.	430.	440.	429.	410.	428.	391.	427.	399.	426.
10725.0	1.4381	376.	426.	377.	425.	371.	424.	388.	423.	373.	423.
10750.0	1.4414	373.	422.	383.	422.	353.	422.	429.	422.	390.	423.
10775.0	1.4448	399.	424.	383.	426.	384.	428.	361.	430.	379.	433.
10800.0	1.4482	407.	437.	418.	441.	440.	446.	433.	450.	440.	455.
10825.0	1.4515	430.	459.	433.	463.	459.	467.	422.	469.	393.	471.
10850.0	1.4548	440.	472.	431.	471.	481.	470.	430.	469.	422.	466.
10875.0	1.4582	407.	464.	462.	462.	449.	460.	417.	458.	396.	457.
10900.0	1.4616	415.	458.	419.	457.	414.	461.	438.	463.	414.	467.
10925.0	1.4648	470.	471.	377.	475.	450.	478.	481.	482.	415.	484.
10950.0	1.4683	471.	486.	475.	487.	454.	486.	433.	485.	534.	482.
10975.0	1.4716	456.	479.	450.	475.	437.	470.	399.	465.	435.	461.
11000.0	1.4749	407.	456.	384.	451.	397.	447.	380.	443.	417.	439.
11025.0	1.4783	408.	435.	397.	432.	376.	428.	369.	424.	415.	420.
11050.0	1.4816	381.	416.	397.	413.	358.	409.	372.	405.	366.	401.
11075.0	1.4850	353.	397.	371.	393.	358.	390.	359.	386.	380.	383.
11100.0	1.4884	344.	380.	368.	378.	328.	375.	317.	373.	331.	371.
11125.0	1.4917	357.	369.	363.	367.	321.	365.	345.	364.	336.	362.
11150.0	1.4950	356.	361.	359.	360.	375.	359.	342.	358.	318.	357.
11175.0	1.4984	373.	356.	365.	356.	362.	355.	334.	355.	338.	354.
11200.0	1.5018	343.	354.	336.	354.	307.	354.	359.	354.	331.	355.
11225.0	1.5051	353.	355.	338.	355.	371.	356.	305.	356.	367.	356.
11250.0	1.5084	348.	357.	366.	357.	362.	357.	391.	358.	374.	358.
11275.0	1.5118	341.	359.	385.	360.	364.	362.	378.	365.	407.	370.
11300.0	1.5152	381.	376.	418.	385.	426.	395.	398.	409.	435.	426.
11325.0	1.5184	438.	446.	463.	469.	478.	495.	521.	523.	532.	552.
11350.0	1.5219	544.	583.	574.	613.	631.	641.	694.	667.	701.	689.
11375.0	1.5252	714.	706.	723.	717.	696.	723.	755.	723.	723.	717.
11400.0	1.5285	769.	705.	723.	689.	667.	670.	676.	647.	637.	624.
11425.0	1.5319	616.	600.	617.	576.	567.	555.	565.	536.	543.	522.
11450.0	1.5353	545.	511.	527.	506.	520.	507.	553.	515.	540.	529.
11475.0	1.5386	589.	551.	638.	579.	617.	615.	614.	655.	696.	701.
11500.0	1.5420	799.	749.	872.	799.	905.	849.	970.	895.	1086.	937.
11525.0	1.5453	1115.	972.	1149.	999.	1201.	1016.	1191.	1023.	1163.	1020.
11550.0	1.5486	1083.	1006.	1014.	984.	1042.	953.	933.	916.	963.	874.
11575.0	1.5520	897.	826.	825.	780.	759.	734.	677.	688.	648.	645.
11600.0	1.5554	642.	604.	561.	566.	558.	531.	528.	500.	502.	472.
11625.0	1.5587	504.	448.	427.	426.	422.	408.	438.	391.	416.	377.
11650.0	1.5620	402.	365.	378.	354.	356.	345.	377.	337.	365.	330.
11675.0	1.5654	357.	324.	367.	319.	332.	314.	334.	310.	368.	307.
11700.0	1.5688	329.	304.	305.	301.	306.	299.	338.	297.	334.	295.
11725.0	1.5721	337.	293.	0.	0.	0.	0.	0.	0.	0.	0.
11750.0	1.5755	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11775.0	1.5788	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11800.0	1.5822	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11825.0	1.5855	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11850.0	1.5889	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11875.0	1.5922	0.	0.	268.	271.	260.	270.	281.	270.	264.	269.
11900.0	1.5956	257.	269.	295.	268.	264.	268.	267.	267.	240.	267.
11925.0	1.5989	240.	266.	265.	266.	267.	265.	277.	265.	262.	265.
11950.0	1.6022	286.	264.	255.	264.	250.	264.	283.	264.	283.	264.

TOF	D	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC
11975.0	1.6057	284.	264.	278.	265.	247.	266.	284.	268.	293.	270.
12000.0	1.6090	275.	273.	254.	276.	279.	281.	333.	286.	304.	292.
12025.0	1.6123	252.	298.	275.	305.	318.	313.	303.	321.	343.	329.
12050.0	1.6157	326.	337.	354.	344.	343.	351.	393.	356.	384.	360.
12075.0	1.6191	364.	363.	416.	364.	373.	363.	385.	361.	370.	358.
12100.0	1.6224	379.	353.	354.	347.	308.	341.	356.	334.	314.	326.
12125.0	1.6257	311.	319.	289.	311.	286.	304.	312.	297.	267.	291.
12150.0	1.6291	305.	285.	257.	279.	275.	274.	272.	270.	262.	266.
12175.0	1.6324	275.	263.	243.	259.	251.	257.	262.	254.	251.	252.
12200.0	1.6358	259.	250.	241.	249.	230.	247.	229.	246.	253.	245.
12225.0	1.6391	239.	243.	227.	242.	233.	242.	267.	241.	253.	240.
12250.0	1.6425	233.	239.	256.	239.	244.	238.	267.	237.	266.	237.
12275.0	1.6458	0.	0.	0.	0.	0.	0.	221.	234.	240.	234.
12300.0	1.6492	226.	233.	262.	233.	249.	233.	219.	232.	217.	232.
12325.0	1.6525	279.	231.	262.	231.	232.	231.	246.	230.	249.	230.
12350.0	1.6559	226.	230.	252.	229.	243.	229.	234.	229.	241.	229.
12375.0	1.6593	262.	229.	242.	229.	242.	229.	280.	229.	258.	230.
12400.0	1.6626	242.	232.	258.	234.	298.	236.	270.	240.	288.	245.
12425.0	1.6659	284.	251.	313.	259.	285.	269.	314.	280.	319.	295.
12450.0	1.6693	354.	311.	362.	331.	356.	353.	375.	379.	398.	407.
12475.0	1.6727	390.	438.	453.	471.	590.	505.	500.	541.	566.	577.
12500.0	1.6760	568.	612.	648.	646.	641.	677.	646.	704.	703.	727.
12525.0	1.6793	763.	745.	816.	757.	771.	764.	757.	765.	750.	762.
12550.0	1.6827	773.	754.	757.	744.	736.	733.	714.	722.	768.	713.
12575.0	1.6860	687.	708.	665.	709.	658.	716.	683.	731.	698.	756.
12600.0	1.6894	716.	789.	759.	831.	771.	881.	862.	938.	923.	999.
12625.0	1.6928	1067.	1063.	1144.	1127.	1216.	1188.	1296.	1243.	1389.	1290.
12650.0	1.6961	1337.	1326.	1437.	1351.	1423.	1361.	1398.	1358.	1304.	1342.
12675.0	1.6994	1316.	1312.	1278.	1270.	1153.	1219.	1099.	1159.	992.	1093.
12700.0	1.7029	986.	1024.	898.	953.	836.	882.	724.	813.	667.	747.
12725.0	1.7061	652.	685.	626.	627.	566.	571.	513.	523.	485.	481.
12750.0	1.7095	460.	443.	425.	410.	392.	380.	347.	355.	371.	333.
12775.0	1.7129	341.	314.	347.	298.	325.	284.	329.	272.	348.	261.
12800.0	1.7162	328.	253.	295.	246.	287.	239.	303.	234.	298.	230.
12825.0	1.7195	249.	227.	318.	224.	293.	221.	259.	219.	269.	218.
12850.0	1.7229	286.	216.	275.	215.	254.	206.	258.	206.	256.	206.
12875.0	1.7263	258.	206.	257.	206.	229.	205.	255.	205.	252.	204.
12900.0	1.7296	225.	203.	233.	202.	223.	201.	243.	200.	224.	199.
12925.0	1.7329	226.	198.	205.	197.	194.	196.	222.	195.	223.	194.
12950.0	1.7363	231.	194.	194.	193.	233.	192.	200.	191.	196.	191.
12975.0	1.7397	186.	190.	232.	190.	221.	189.	197.	189.	207.	188.
13000.0	1.7430	217.	188.	217.	188.	181.	187.	216.	187.	203.	186.
13025.0	1.7464	171.	186.	202.	186.	191.	185.	202.	185.	201.	185.
13050.0	1.7497	181.	185.	209.	184.	195.	184.	176.	184.	194.	183.
13075.0	1.7530	210.	183.	182.	183.	200.	182.	179.	182.	167.	182.
13100.0	1.7565	174.	182.	176.	181.	175.	181.	176.	181.	213.	181.
13125.0	1.7597	191.	180.	176.	180.	179.	180.	186.	180.	166.	179.
13150.0	1.7631	159.	179.	181.	179.	187.	179.	163.	178.	151.	178.
13175.0	1.7665	193.	178.	160.	178.	173.	177.	155.	177.	173.	177.
13200.0	1.7698	162.	177.	173.	176.	188.	176.	166.	176.	174.	176.
13225.0	1.7731	156.	175.	170.	175.	170.	175.	160.	175.	175.	174.
13250.0	1.7766	183.	174.	158.	174.	187.	174.	135.	174.	153.	173.
13275.0	1.7799	162.	173.	160.	173.	189.	173.	171.	172.	174.	172.
13300.0	1.7832	203.	172.	186.	172.	160.	172.	182.	172.	169.	172.

TOF	D	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC
13325.0	1.7866	178.	172.	179.	173.	184.	173.	160.	174.	160.	175.
13350.0	1.7899	180.	176.	167.	177.	159.	179.	175.	181.	178.	183.
13375.0	1.7933	195.	186.	156.	188.	166.	191.	148.	194.	204.	197.
13400.0	1.7966	184.	200.	208.	202.	207.	205.	199.	207.	213.	209.
13425.0	1.8000	183.	210.	188.	210.	201.	211.	185.	210.	195.	209.
13450.0	1.8033	211.	208.	173.	206.	167.	204.	177.	201.	175.	199.
13475.0	1.8067	182.	196.	174.	193.	175.	190.	169.	187.	164.	184.
13500.0	1.8101	178.	182.	184.	180.	166.	177.	172.	175.	168.	173.
13525.0	1.8134	140.	172.	180.	170.	186.	169.	141.	168.	160.	167.
13550.0	1.8167	190.	166.	182.	165.	152.	164.	156.	163.	172.	163.
13575.0	1.8201	195.	162.	177.	162.	170.	161.	185.	161.	168.	161.
13600.0	1.8235	179.	160.	169.	160.	152.	160.	159.	159.	163.	159.
13625.0	1.8267	173.	159.	168.	159.	156.	159.	173.	159.	176.	159.
13650.0	1.8302	205.	159.	175.	160.	187.	161.	183.	163.	197.	165.
13675.0	1.8335	200.	168.	201.	172.	224.	178.	217.	185.	216.	194.
13700.0	1.8368	230.	205.	239.	219.	260.	236.	292.	255.	308.	279.
13725.0	1.8402	356.	305.	312.	335.	330.	369.	381.	405.	403.	443.
13750.0	1.8436	478.	482.	482.	522.	530.	562.	617.	600.	616.	635.
13775.0	1.8469	644.	667.	711.	694.	731.	715.	778.	729.	722.	737.
13800.0	1.8502	724.	738.	727.	732.	692.	720.	708.	702.	668.	679.
13825.0	1.8536	606.	652.	595.	621.	566.	588.	486.	554.	494.	519.
13850.0	1.8569	432.	484.	394.	451.	386.	419.	383.	389.	389.	361.
13875.0	1.8603	322.	335.	310.	311.	289.	290.	293.	271.	268.	255.
13900.0	1.8637	258.	240.	245.	227.	255.	216.	231.	206.	227.	198.
13925.0	1.8670	239.	191.	218.	184.	226.	179.	189.	174.	196.	170.
13950.0	1.8703	194.	167.	197.	164.	210.	161.	200.	159.	194.	157.
13975.0	1.8738	172.	155.	171.	154.	189.	152.	166.	151.	165.	150.
14000.0	1.8771	198.	150.	0.	0.	0.	0.	0.	0.	0.	0.
14025.0	1.8804	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14050.0	1.8838	0.	0.	0.	0.	0.	0.	0.	0.	158.	143.
14075.0	1.8871	156.	143.	168.	143.	183.	143.	155.	143.	150.	143.
14100.0	1.8905	164.	143.	155.	142.	172.	142.	170.	142.	184.	142.
14125.0	1.8938	183.	142.	173.	142.	175.	142.	171.	142.	174.	142.
14150.0	1.8972	160.	142.	180.	143.	174.	144.	167.	145.	182.	146.
14175.0	1.9005	174.1	148.	178.	151.	197.	155.	213.	160.	198.	167.
14200.0	1.9038	212.	176.	240.	187.	216.	200.	236.	216.	249.	236.
14225.0	1.9072	271.	259.	287.	286.	274.	316.	338.	351.	347.	389.
14250.0	1.9106	390.	430.	418.	473.	480.	518.	538.	564.	560.	610.
14275.0	1.9139	561.	654.	651.	696.	746.	733.	758.	766.	802.	792.
14300.0	1.9173	858.	812.	805.	824.	788.	828.	799.	825.	773.	815.
14325.0	1.9206	724.	797.	723.	774.	691.	745.	609.	711.	613.	675.
14350.0	1.9239	575.	636.	554.	596.	501.	556.	493.	517.	442.	479.
14375.0	1.9274	439.	442.	392.	408.	391.	376.	366.	347.	331.	320.
14400.0	1.9307	303.	296.	293.	275.	314.	256.	249.	239.	263.	225.
14425.0	1.9340	217.	212.	253.	201.	236.	191.	219.	183.	188.	176.
14450.0	1.9374	177.	170.	200.	164.	200.	160.	170.	156.	170.	153.
14475.0	1.9408	170.	150.	198.	147.	144.	145.	179.	143.	165.	142.
14500.0	1.9441	163.	140.	163.	139.	169.	138.	162.	137.	0.	0.
14525.0	1.9474	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14550.0	1.9508	0.	0.	0.	0.	0.	0.	0.	0.	127.	131.
14575.0	1.9541	144.	131.	126.	131.	130.	131.	125.	131.	144.	131.
14600.0	1.9575	132.	130.	121.	130.	122.	130.	163.	130.	137.	130.
14625.0	1.9608	139.	130.	122.	130.	140.	130.	121.	130.	124.	130.
14650.0	1.9642	141.	130.	143.	130.	142.	130.	140.	130.	142.	130.

TOF	D	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC
14675.0	1.9675	154.	130.	131.	130.	132.	131.	127.	131.	119.	132.
14700.0	1.9710	141.	133.	153.	134.	132.	136.	118.	138.	129.	140.
14725.0	1.9742	126.	143.	123.	146.	141.	150.	142.	154.	144.	159.
14750.0	1.9776	165.	164.	155.	169.	181.	175.	192.	181.	200.	187.
14775.0	1.9810	197.	193.	200.	199.	249.	204.	227.	209.	227.	213.
14800.0	1.9843	225.	217.	214.	219.	237.	220.	253.	221.	217.	220.
14825.0	1.9876	249.	219.	215.	216.	200.	213.	234.	209.	199.	205.
14850.0	1.9910	220.	200.	196.	195.	163.	190.	169.	184.	170.	179.
14875.0	1.9944	164.	174.	182.	169.	160.	165.	149.	160.	163.	157.
14900.0	1.9977	152.	154.	150.	151.	139.	149.	166.	147.	125.	146.
14925.0	2.0011	150.	145.	170.	145.	152.	146.	159.	147.	135.	148.
14950.0	2.0044	123.	150.	133.	153.	125.	155.	131.	158.	147.	161.
14975.0	2.0078	169.	165.	166.	168.	147.	171.	171.	174.	153.	177.
15000.0	2.0111	146.	180.	165.	182.	180.	183.	171.	184.	172.	184.
15025.0	2.0145	199.	184.	154.	182.	166.	181.	153.	179.	164.	176.
15050.0	2.0178	130.	174.	145.	171.	143.	167.	149.	164.	135.	161.
15075.0	2.0211	135.	157.	132.	154.	143.	151.	141.	147.	113.	145.
15100.0	2.0246	124.	142.	127.	139.	125.	137.	114.	135.	114.	133.
15125.0	2.0279	139.	132.	122.	130.	128.	129.	103.	128.	107.	127.
15150.0	2.0312	125.	126.	106.	126.	127.	125.	135.	124.	106.	124.
15175.0	2.0346	102.	123.	100.	123.	111.	123.	104.	122.	122.	122.
15200.0	2.0380	113.	122.	101.	122.	106.	122.	102.	121.	93.	121.
15225.0	2.0412	120.	121.	100.	121.	0.	0.	0.	0.	0.	0.
15250.0	2.0447	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15275.0	2.0480	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15300.0	2.0513	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15325.0	2.0547	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15350.0	2.0581	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15375.0	2.0614	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15400.0	2.0647	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15425.0	2.0681	93.	118.	70.	118.	116.	118.	94.	118.	116.	118.
15450.0	2.0714	106.	118.	105.	118.	98.	118.	84.	118.	118.	118.
15475.0	2.0748	95.	118.	107.	118.	117.	118.	94.	118.	109.	118.
15500.0	2.0782	103.	118.	110.	118.	90.	118.	100.	118.	107.	118.
15525.0	2.0815	96.	119.	97.	119.	126.	120.	112.	120.	130.	121.
15550.0	2.0848	116.	123.	108.	125.	107.	127.	109.	130.	135.	133.
15575.0	2.0883	134.	138.	119.	143.	141.	149.	154.	157.	168.	166.
15600.0	2.0916	138.	176.	175.	187.	188.	200.	187.	213.	183.	228.
15625.0	2.0949	207.	244.	234.	260.	267.	277.	279.	294.	299.	311.
15650.0	2.0983	361.	327.	378.	342.	426.	355.	412.	367.	430.	376.
15675.0	2.1016	435.	383.	472.	388.	424.	390.	426.	389.	406.	386.
15700.0	2.1050	410.	380.	442.	372.	381.	362.	336.	350.	356.	337.
15725.0	2.1083	336.	323.	325.	309.	279.	294.	283.	279.	232.	264.
15750.0	2.1117	215.	250.	199.	236.	206.	223.	191.	211.	169.	200.
15775.0	2.1150	201.	190.	139.	180.	159.	172.	157.	165.	166.	158.
15800.0	2.1184	130.	152.	141.	147.	132.	143.	133.	139.	123.	136.
15825.0	2.1217	133.	133.	119.	130.	131.	128.	128.	127.	125.	125.
15850.0	2.1251	131.	124.	116.	123.	126.	123.	149.	122.	145.	122.
15875.0	2.1284	130.	123.	117.	123.	108.	124.	138.	126.	119.	128.
15900.0	2.1318	137.	131.	165.	133.	157.	137.	155.	142.	150.	148.
15925.0	2.1351	160.	155.	149.	163.	177.	172.	201.	181.	189.	192.
15950.0	2.1385	207.	203.	194.	215.	230.	227.	243.	239.	268.	251.
15975.0	2.1419	267.	263.	258.	274.	284.	284.	323.	293.	327.	301.
16000.0	2.1452	359.	307.	350.	312.	331.	314.	321.	315.	355.	314.

TOF	D	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC
16025.0	2.1485	347.	311.	316.	306.	297.	300.	319.	292.	302.	283.
16050.0	2.1519	267.	274.	236.	263.	240.	253.	233.	242.	233.	231.
16075.0	2.1553	210.	221.	195.	210.	197.	201.	178.	191.	204.	183.
16100.0	2.1586	146.	175.	171.	168.	135.	162.	169.	157.	161.	152.
16125.0	2.1620	172.	148.	161.	145.	177.	143.	170.	142.	155.	142.
16150.0	2.1653	173.	142.	170.	144.	189.	147.	174.	151.	172.	156.
16175.0	2.1687	187.	162.	186.	170.	204.	179.	196.	189.	190.	201.
16200.0	2.1720	248.	213.	224.	227.	219.	242.	281.	257.	262.	273.
16225.0	2.1754	295.	288.	325.	304.	304.	318.	360.	332.	387.	345.
16250.0	2.1787	405.	356.	376.	365.	442.	372.	382.	377.	439.	379.
16275.0	2.1820	414.	379.	417.	377.	429.	372.	363.	365.	415.	356.
16300.0	2.1855	380.	346.	328.	334.	317.	321.	332.	307.	305.	293.
16325.0	2.1888	284.	279.	259.	265.	224.	251.	257.	237.	212.	225.
16350.0	2.1921	219.	213.	191.	202.	230.	191.	192.	182.	163.	173.
16375.0	2.1955	189.	166.	165.	159.	166.	153.	162.	148.	146.	143.
16400.0	2.1989	132.	139.	138.	135.	118.	132.	127.	129.	136.	127.
16425.0	2.2021	128.	125.	138.	123.	136.	122.	120.	121.	123.	119.
16450.0	2.2056	119.	119.	114.	118.	118.	117.	114.	116.	103.	116.
16475.0	2.2089	115.	115.	115.	115.	103.	115.	86.	115.	110.	114.
16500.0	2.2122	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16525.0	2.2156	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16550.0	2.2190	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16575.0	2.2223	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16600.0	2.2256	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16625.0	2.2290	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16650.0	2.2323	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16675.0	2.2357	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16700.0	2.2391	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16725.0	2.2424	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16750.0	2.2457	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16775.0	2.2492	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16800.0	2.2525	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16825.0	2.2558	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16850.0	2.2592	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16875.0	2.2625	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16900.0	2.2659	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16925.0	2.2692	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16950.0	2.2726	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16975.0	2.2759	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17000.0	2.2793	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17025.0	2.2826	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17050.0	2.2860	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17075.0	2.2893	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17100.0	2.2927	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17125.0	2.2960	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17150.0	2.2994	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17175.0	2.3028	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17200.0	2.3061	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17225.0	2.3094	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17250.0	2.3128	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17275.0	2.3162	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17300.0	2.3195	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17325.0	2.3228	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17350.0	2.3262	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOF	D	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC
17375.0	2.3296	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17400.0	2.3329	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17425.0	2.3363	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17450.0	2.3396	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17475.0	2.3430	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17500.0	2.3464	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17525.0	2.3497	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17550.0	2.3530	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17575.0	2.3564	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17600.0	2.3598	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17625.0	2.3631	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17650.0	2.3665	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17675.0	2.3698	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17700.0	2.3732	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17725.0	2.3765	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17750.0	2.3799	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17775.0	2.3832	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17800.0	2.3865	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17825.0	2.3899	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17850.0	2.3933	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17875.0	2.3966	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17900.0	2.4000	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17925.0	2.4033	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17950.0	2.4066	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17975.0	2.4101	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18000.0	2.4134	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18025.0	2.4167	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18050.0	2.4201	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18075.0	2.4235	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18100.0	2.4268	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18125.0	2.4301	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18150.0	2.4335	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18175.0	2.4369	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18200.0	2.4402	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18225.0	2.4436	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18250.0	2.4469	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18275.0	2.4502	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18300.0	2.4537	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18325.0	2.4570	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18350.0	2.4603	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18375.0	2.4637	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18400.0	2.4671	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18425.0	2.4703	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18450.0	2.4737	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18475.0	2.4771	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18500.0	2.4805	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18525.0	2.4837	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18550.0	2.4872	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18575.0	2.4905	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18600.0	2.4938	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18625.0	2.4972	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18650.0	2.5006	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18675.0	2.5039	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18700.0	2.5073	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOF	D	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC
18725.0	2.5106	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18750.0	2.5139	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18775.0	2.5174	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18800.0	2.5207	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18825.0	2.5240	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18850.0	2.5274	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18875.0	2.5308	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18900.0	2.5341	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18925.0	2.5374	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18950.0	2.5408	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18975.0	2.5442	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19000.0	2.5475	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19025.0	2.5509	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19050.0	2.5542	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19075.0	2.5575	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19100.0	2.5610	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19125.0	2.5643	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19150.0	2.5676	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19175.0	2.5710	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19200.0	2.5744	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19225.0	2.5776	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19250.0	2.5810	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19275.0	2.5844	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19300.0	2.5878	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19325.0	2.5910	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19350.0	2.5945	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19375.0	2.5978	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19400.0	2.6011	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19425.0	2.6045	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19450.0	2.6079	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19475.0	2.6112	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19500.0	2.6146	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19525.0	2.6179	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19550.0	2.6212	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19575.0	2.6246	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19600.0	2.6280	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19625.0	2.6313	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19650.0	2.6346	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19675.0	2.6381	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19700.0	2.6414	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19725.0	2.6447	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19750.0	2.6481	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19775.0	2.6515	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19800.0	2.6548	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19825.0	2.6582	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19850.0	2.6615	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19875.0	2.6648	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19900.0	2.6682	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19925.0	2.6716	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19950.0	2.6749	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19975.0	2.6782	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20000.0	2.6817	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20025.0	2.6850	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20050.0	2.6883	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOF	D	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC
20075.0	2.6917	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20100.0	2.6951	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20125.0	2.6983	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20150.0	2.7018	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20175.0	2.7051	0.	0.	0.	0.	0.	0.	0.	C.	0.	0.
20200.0	2.7084	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20225.0	2.7118	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20250.0	2.7152	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20275.0	2.7185	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20300.0	2.7219	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20325.0	2.7252	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20350.0	2.7286	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20375.0	2.7319	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20400.0	2.7353	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20425.0	2.7386	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20450.0	2.7419	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20475.0	2.7454	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20500.0	2.7487	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20525.0	2.7520	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20550.0	2.7554	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20575.0	2.7588	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20600.0	2.7621	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20625.0	2.7655	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20650.0	2.7688	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20675.0	2.7722	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20700.0	2.7755	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20725.0	2.7789	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20750.0	2.7822	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20775.0	2.7856	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20800.0	2.7890	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20825.0	2.7923	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20850.0	2.7956	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20875.0	2.7990	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20900.0	2.8024	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20925.0	2.8057	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20950.0	2.8091	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20975.0	2.8124	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21000.0	2.8158	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21025.0	2.8191	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21050.0	2.8225	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21075.0	2.8258	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21100.0	2.8292	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21125.0	2.8325	0.	0.	0.	0.	0.	0.	0.	0.	0.	C.
21150.0	2.8359	0.	0.	0.	0.	0	0.	0.	0.	0.	
21175.0	2.8392	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21200.0	2.8427	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21225.0	2.8459	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21250.0	2.8493	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21275.0	2.8527	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21300.0	2.8560	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21325.0	2.8593	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21350.0	2.8628	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21375.0	2.8661	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21400.0	2.8694	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOF	D	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC
21425.0	2.8728	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21450.0	2.8762	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21475.0	2.8795	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21500.0	2.8828	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21525.0	2.8862	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21550.0	2.8895	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21575.0	2.8929	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21600.0	2.8963	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21625.0	2.8996	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21650.0	2.9029	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21675.0	2.9064	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21700.0	2.9097	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21725.0	2.9130	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21750.0	2.9164	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21775.0	2.9198	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21800.0	2.9231	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21825.0	2.9264	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21850.0	2.9298	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21875.0	2.9332	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21900.0	2.9365	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21925.0	2.9399	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21950.0	2.9432	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21975.0	2.9465	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22000.0	2.9500	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22025.0	2.9533	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22050.0	2.9566	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22075.0	2.9600	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22100.0	2.9634	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22125.0	2.9667	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22150.0	2.9700	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22175.0	2.9734	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22200.0	2.9768	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22225.0	2.9800	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22250.0	2.9835	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22275.0	2.9868	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22300.0	2.9902	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22325.0	2.9935	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22350.0	2.9969	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22375.0	3.0002	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22400.0	3.0037	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22425.0	3.0069	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22450.0	3.0103	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22475.0	3.0137	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22500.0	3.0170	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22525.0	3.0203	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22550.0	3.0237	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22575.0	3.0271	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22600.0	3.0304	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22625.0	3.0337	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22650.0	3.0372	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22675.0	3.0405	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22700.0	3.0438	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22725.0	3.0472	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22750.0	3.0505	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOF	D	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC
22775.0	3.0539	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22800.0	3.0573	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22825.0	3.0606	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22850.0	3.0639	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22875.0	3.0673	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22900.0	3.0707	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22925.0	3.0740	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22950.0	3.0773	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22975.0	3.0808	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23000.0	3.0841	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23025.0	3.0874	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23050.0	3.0908	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23075.0	3.0942	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23100.0	3.0975	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23125.0	3.1009	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23150.0	3.1042	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23175.0	3.1076	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23200.0	3.1109	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23225.0	3.1143	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23250.0	3.1176	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23275.0	3.1210	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23300.0	3.1244	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23325.0	3.1277	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23350.0	3.1310	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23375.0	3.1344	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23400.0	3.1378	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23425.0	3.1411	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23450.0	3.1445	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23475.0	3.1478	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23500.0	3.1512	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23525.0	3.1545	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23550.0	3.1579	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23575.0	3.1612	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23600.0	3.1646	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23625.0	3.1680	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23650.0	3.1713	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23675.0	3.1746	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23700.0	3.1781	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23725.0	3.1813	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23750.0	3.1847	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23775.0	3.1881	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23800.0	3.1915	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23825.0	3.1947	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23850.0	3.1982	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23875.0	3.2015	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23900.0	3.2049	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23925.0	3.2082	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23950.0	3.2116	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23975.0	3.2149	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24000.0	3.2183	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24025.0	3.2216	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24050.0	3.2250	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24075.0	3.2283	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24100.0	3.2317	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOF	D	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC
24125.0	3.2350	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24150.0	3.2384	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24175.0	3.2418	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24200.0	3.2451	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24225.0	3.2484	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24250.0	3.2518	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24275.0	3.2552	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24300.0	3.2585	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24325.0	3.2618	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24350.0	3.2653	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24375.0	3.2686	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24400.0	3.2719	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24425.0	3.2753	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24450.0	3.2787	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24475.0	3.2820	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24500.0	3.2854	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24525.0	3.2887	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24550.0	3.2920	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24575.0	3.2954	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24600.0	3.2988	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24625.0	3.3021	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24650.0	3.3054	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24675.0	3.3089	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24700.0	3.3122	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24725.0	3.3155	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24750.0	3.3189	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24775.0	3.3223	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24800.0	3.3256	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24825.0	3.3290	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24850.0	3.3323	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24875.0	3.3357	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24900.0	3.3391	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24925.0	3.3424	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24950.0	3.3457	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24975.0	3.3491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25000.0	3.3525	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25025.0	3.3558	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25050.0	3.3591	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25075.0	3.3626	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25100.0	3.3659	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25125.0	3.3692	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25150.0	3.3726	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25175.0	3.3760	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25200.0	3.3793	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25225.0	3.3827	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25250.0	3.3860	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25275.0	3.3894	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25300.0	3.3927	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25325.0	3.3961	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25350.0	3.3994	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25375.0	3.4028	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25400.0	3.4062	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25425.0	3.4095	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25450.0	3.4128	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOF	D	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC
25475.0	3.4163	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25500.0	3.4196	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25525.0	3.4229	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25550.0	3.4263	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25575.0	3.4297	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25600.0	3.4330	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25625.0	3.4363	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25650.0	3.4397	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25675.0	3.4430	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25700.0	3.4464	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25725.0	3.4498	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25750.0	3.4531	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25775.0	3.4564	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25800.0	3.4599	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25825.0	3.4632	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25850.0	3.4665	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25875.0	3.4699	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25900.0	3.4733	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25925.0	3.4766	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25950.0	3.4799	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25975.0	3.4833	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26000.0	3.4867	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26025.0	3.4900	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26050.0	3.4934	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26075.0	3.4967	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26100.0	3.5001	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26125.0	3.5035	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26150.0	3.5068	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26175.0	3.5101	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26200.0	3.5136	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26225.0	3.5169	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26250.0	3.5202	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26275.0	3.5236	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26300.0	3.5270	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26325.0	3.5303	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26350.0	3.5336	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26375.0	3.5370	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26400.0	3.5404	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26425.0	3.5437	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26450.0	3.5471	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26475.0	3.5504	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26500.0	3.5538	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26525.0	3.5572	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26550.0	3.5605	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26575.0	3.5638	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26600.0	3.5672	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26625.0	3.5706	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26650.0	3.5739	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26675.0	3.5772	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26700.0	3.5807	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26725.0	3.5840	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26750.0	3.5873	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26775.0	3.5907	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26800.0	3.5941	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOF	D	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC
26825.0	3.5973	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26850.0	3.6008	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26875.0	3.6041	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26900.0	3.6075	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26925.0	3.6108	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26950.0	3.6142	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26975.0	3.6175	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27000.0	3.6209	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27025.0	3.6242	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27050.0	3.6276	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27075.0	3.6309	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27100.0	3.6344	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27125.0	3.6376	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27150.0	3.6410	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27175.0	3.6444	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27200.0	3.6478	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27225.0	3.6510	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27250.0	3.6545	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27275.0	3.6578	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27300.0	3.6612	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27325.0	3.6645	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27350.0	3.6679	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27375.0	3.6712	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27400.0	3.6746	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27425.0	3.6779	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27450.0	3.6813	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27475.0	3.6846	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27500.0	3.6881	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27525.0	3.6913	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27550.0	3.6947	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27575.0	3.6981	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27600.0	3.7015	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27625.0	3.7047	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27650.0	3.7081	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27675.0	3.7115	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27700.0	3.7149	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27725.0	3.7181	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27750.0	3.7216	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27775.0	3.7249	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27800.0	3.7283	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27825.0	3.7316	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27850.0	3.7350	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27875.0	3.7383	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27900.0	3.7417	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27925.0	3.7450	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27950.0	3.7484	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27975.0	3.7517	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28000.0	3.7552	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28025.0	3.7584	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28050.0	3.7618	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28075.0	3.7652	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28100.0	3.7686	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28125.0	3.7718	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28150.0	3.7753	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOF	D	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC
28175.0	3.7786	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28200.0	3.7820	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28225.0	3.7854	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28250.0	3.7887	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28275.0	3.7920	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28300.0	3.7954	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28325.0	3.7988	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28350.0	3.8021	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28375.0	3.8054	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28400.0	3.8089	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28425.0	3.8122	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28450.0	3.8155	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28475.0	3.8189	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28500.0	3.8223	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28525.0	3.8256	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28550.0	3.8290	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28575.0	3.8323	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28600.0	3.8357	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28625.0	3.8390	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28650.0	3.8424	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28675.0	3.8457	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28700.0	3.8491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28725.0	3.8525	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28750.0	3.8558	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28775.0	3.8591	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28800.0	3.8626	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28825.0	3.8659	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28850.0	3.8692	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28875.0	3.8726	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28900.0	3.8760	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28925.0	3.8793	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28950.0	3.8826	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28975.0	3.8860	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29000.0	3.8894	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29025.0	3.8927	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29050.0	3.8961	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29075.0	3.8994	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29100.0	3.9028	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29125.0	3.9062	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29150.0	3.9095	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29175.0	3.9128	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29200.0	3.9162	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29225.0	3.9196	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29250.0	3.9229	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29275.0	3.9262	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29300.0	3.9297	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29325.0	3.9330	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29350.0	3.9363	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29375.0	3.9398	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29400.0	3.9431	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29425.0	3.9464	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29450.0	3.9498	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29475.0	3.9532	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29500.0	3.9565	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOF	D	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC	YOBS	YCALC
29525.0	3.9599	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29550.0	3.9632	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29575.0	3.9666	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29600.0	3.9699	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29625.0	3.9733	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29650.0	3.9766	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29675.0	3.9800	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29700.0	3.9834	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29725.0	3.9867	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29750.0	3.9900	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29775.0	3.9935	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29800.0	3.9968	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29825.0	4.0001	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29850.0	4.0035	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29875.0	4.0069	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29900.0	4.0102	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29925.0	4.0135	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29950.0	4.0169	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29975.0	4.0203	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.