ESRF BLOCK ALLOCATION GROUP PROGRESS REPORT

BAG RESPONSIBLE: Professor Felix Frolow
EXPERIMENT NO: LS-2200
LAST REVIEW DATE: March 2001

Shift usage since last Review:

Allocated	21	Used	21	Cancelled by Users	0	Cancelled by ESRF	0
Total Number of Visits		3	Total Number of Visitors	15			

BAG Principle Investigators (indicate by # those left since last review, * those new since last review.)

Principal Investigator	Institute
Felix Frolow	Tel Aviv University
Nathan Nelson	Tel Aviv University
Linda Shimon	Weizmann Institute of Science
Oded Livnah	Hebrew University of Jerusalem
Orly Dim *	Hebrew University of Jerusalem
Zippora Shakked *	Weizmann Institute of Science
Aaron Joseph Gilboa #	Weizmann Institute of Science

Total Number of PDB submissions from data from ESRF beam lines since last report	0
Total Number of Publications resulting from data from ESRF beam lines since last report	4

List below the <u>five</u> most important publications directly resulting from data recorded either wholly or partially on ESRF beamlines (you must indicate [1] ESRF data only; [2] data from more than one source):

1. F. Frolow, AJ Kalb (Gilboa), (20010 Cytochrome b1 – bacterioferritin. *Handbook of metalloproteins*. © John Wiley & Sons, Ltd, Chichester, (782-790)[2]
2. L. J Shimon, M. Peretz, E. Goihberg, Y. Burstein, F. Frolow)2002) Thermophilic alcohol dehydrogenase from the mesophile *Entamoeba histolytica*: crystallization and preliminary X-ray characterization. *Acta Cryst* **D58**, (546-548)[1]
3. L. J. Shimon, A. Rabinkov, T. Miron, D. Mirelman, M. Wilchek, F. Frolow. (2002) Alliin lyase (alliinase) fromgarlic (Allium sativum): crystallization and preliminary X-ray characterization. *Acta Cryst* **D58**, (1335–1337)[1]
4. Y. Pazy., O.H. Laitinen, B. Ravoy, M.S. Kulomaa, M. Wilchek, E. A. Bayer and O. Livnah (2001). Crystallization and preliminary X-ray analysis ow W120K mutant of streptavidin. *Acta Cryst* **D57**, (1885-1886)[1]

Summary (<u>250 words maximum</u>) of the results obtained during the past year of BAG operation:

During the past year, we have participated in two BAG projects LS-2083 and LS-2200 and made three visits to ESRF. During these sessions, we have measured over 45 full data sets, and have screened numerous crystals and conditions. Among these 45 data sets are 19 full data sets of Photosystem I from higher plants, the measurement of these is relatively slow: e.g., 6 hours per data set on ID14-1 and about 2 hours per data set on ID14-4. These data sets represent a remarkable progress in PSI structure elucidation giving initial phases based on weak derivatives. Many other structures are already solved and under refinement (see the following Table).We manage to collect successfully even under unfavorable conditions, e.g. when one quadrant of ADSC detector failed (additional longer sweeps were used). These data are marked in the following table and appeared to be very useful. During this time four students were given initial training to use synchrotron for the protein data collection.