

PACKAGE ID - 001087SPARC00 DB EXP DESIGN

KWIC TITLE - Design and Simulation of Hybridization
Experiments

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LIMITATION CODE -COPY **AUDIENCE CODE** - LIM

COMPLETION DATE - 10/01/1992 **PUBLICATION DATE** - 10/10/1992

DESCRIPTION - DB EXP DESIGN is a suite of three UNIX shell-like programs, DWC which computes oligomer composition of DNA texts using directed acyclic word data structures; DWO, which simulates hybridization experiments; and DMI, which calculates the information content of individual probes, their mutual information content, and their joint information content through estimation of Markov trees.

PACKAGE CONTENTS - Media Directory; Software Abstract; Media Includes Source Code, User's Guide, Sample Problem Input and Output;

SOURCE CODE INCLUDED? - Yes

MEDIA QUANTITY - 1 3.5 Diskette

METHOD OF SOLUTION - Directed acyclic word graph data structure is used to analyze the oligomer composition of DNA texts. Optimal Markov trees that capture pairwise dependencies of probes are computed by a minimum-spanning tree-like algorithm.

COMPUTER - SUN SPARC

OPERATING SYSTEMS - Sun UNIX

PROGRAMMING LANGUAGES - C++

SOFTWARE LIMITATIONS -

SOURCE CODE AVAILABLE (Y/N) - Y

UNIQUE FEATURES - The issue addressed by this software is optimal choice of probes for massive hybridization experiments; standard intelligenetics input-output formats make the programs compatible with other sequence analysis software. Format compatibility and UNIX shell programming style make it easy for users to combine DB programs and other UNIX shell software in UNIX shell scripts to perform complex data analysis tasks. Thus, in addition to performing specific data analysis tasks, these programs can be employed as modules in complex data analysis protocols. This combinatorial synergistic effect is a special feature of all DB programs.

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UNIQUE FEATURES - (CONT)

RELATED SOFTWARE - DB DISCOVERY, DB SBH, DB EXP ASSEMBLY, DB DATA
ENTRY, DB SBH VIEW, DB LIB, and PYTHIA

OTHER PROG/OPER SYS INFO - DB EXP DESIGN requires the standard publicly
available C and C++ libraries as well as the publicly available
modules that are included in the lib, libm, and libf libraries.

HARDWARE REQS - Minima of 5 Mbytes RAM and 10 Mbytes disk storage are
needed.

TIME REQUIREMENTS - Typical requests are answered within a few minutes.

ABSTRACT STATUS - Submitted 4/4/96. Released AS-IS 6/25/96

SUBJECT CLASS CODE - Y

KEYWORDS -

COMPUTER PROGRAM DOCUMENTATION
D CODES
DATA ANALYSIS
MOLECULAR BIOLOGY
GENOME MUTATIONS
DNA SEQUENCING
DNA HYBRIDIZATION

EDB SUBJECT CATEGORIES -

990200 550400 550200

SPONSOR - DOE/EH

PACKAGE TYPE - AS - IS