

Database Process Search (DBPS)

The Database Process Search (DBPS) looks for process flows written in the syntax of Ligament or Sentaurus™ Process in a directory (such as \$STCALIB/processes_*). The processes that match the search criterion are listed in the process list file.

The search criterion – the process search pattern – consists of *conditions* connected by logical *operators* &&, ||, !, and grouped by parentheses. The operator && means *and*, || means *or*, and ! means *not*. The conditions consist of a *keyword* and *arguments*, for example, `impl (element==As)` or `nimpl>0`.

In general, the keyword takes only one argument. Only the `impl()` and `diff()` keywords can have more than one argument that are connected by logical operators. Some arguments consist of an argument type and a value connected by *comparators*: ==, <=, >=, <, >, or !=. Some arguments do not have comparators or argument types.

[Table 1](#) lists the DBPS process flow keywords and their syntax, which are allowed in the DBPS criterion.

Table 1 DBPS keywords and syntax

Keyword	Meaning	Argument	Example
<code>impl()</code>	Implantation statement scan, true if (1)	element, elem energy, en dose tilt rotation, rot	<code>impl (elem==as)</code> <code>impl (en>0 && en<100)</code> <code>impl (dose>=1e12)</code> <code>impl (tilt!=0)</code> <code>impl (rot<1)</code>
<code>diff()</code>	Diffusion statement scan, true if (1)	maxT (maximum temperature) totaltime peaktime (time at maximum temperature) pn2 (partial pressure for N ₂) po2 (partial pressure for O ₂) ph2o (partial pressure for H ₂ O)	<code>diff (maxT==1000)</code> <code>diff (totaltime>5)</code> <code>diff (peaktime!=0)</code> <code>diff (pn2==1)</code> <code>diff (po2>0 && po2<1)</code> <code>diff (ph2o!=0)</code>
<code>plot()</code>	Plot statement scan, true if (2)	X, Xtot, Xtotal, Xactive (where X is one of as, p, b, in, ge, sb, ga, al, n)	<code>plot (bactive)</code>
<code>nimpl</code>	Number of implantation statements scan, true if (3)	–	<code>nimpl==1</code>
<code>ndiff</code>	Number of diffusion statement scan, true if (3)	–	<code>ndiff>0</code>
<code>file()</code>	File name scan, true if (2)	<string>	<code>file (USJ)</code>
<code>grep()</code>	Process file scan, true if (2)	<string>	<code>grep (comment)</code>
(1) At least one statement exists in the process file, for which the arguments are evaluated as true. (2) At least one statement exists in the process file, for which the argument is evaluated as true. (3) Comparison is evaluated as true.			