**Article Title**: Valorization of agro-industrial paddy waste for optimization of thermotolerant exoglucanase production by *Parageobacillus thermoglucosidasius* NBCB1 under submerged fermentation

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**Online Resource 2** Toolbox parameters for GA based global optimization of culture parameters

|  |  |
| --- | --- |
| **Parameter** | **Value** |
| Solver | Genetic Algorithm (ga) |
| Fitness function (untitled2.m) with main script (main3.m) | @untitled2function y=untitled2(x)y= -(0.2552 +0.0325\*x(1) -0.0333\*x(2) -0.01728\*x(3) +0.0075\*x(4) -0.0131\*x(1)\*x(2) -0.0101\*x(1)\*x(3) -0.00628\*x(1)\*x(4) +0.0063\*x(2)\*x(3) -0.0001\*x(2)\*x(4) -0.0086\*x(3)\*x(4) -0.0411\*x(1)\*x(1) -0.0347\*x(2)\*x(2) -0.0371\*x(3)\*x(3) -0.0121\*x(4)\*x(4));endmain3.mclcclearclose allFitFcn=@untitled2;nvars=4;[x,fval]=ga(FitFcn.nvars); |
| Total number of variables | 4 |
| Lower bound | [2 4 0.5 0.5] |
| Upper bound | [4 8 1.5 1.5] |
| Population type | Double vector |
| Population size | Default (50) |
| Creation function | Feasible population |
| Scaling function | Rank |
| Selection function | Tournament |
| Mutation function | Adaptive feasible |
| Crossover function | Single point |
| Crossover fraction | 0.8 |
| Stopping generations | 100 |
| Function tolerance | Default (1e-6) |