

BBF RFC 52: Documentation of BioBrick parts

Arend Slomp
David Ekkers

October 2, 2010

1. Purpose

Purpose of this RFC is to improve the information supplied by BioBrick part vendors. Reason to have this RFC is that there would be much more information available which can help improve the search time of the user. Furthermore it should supply the information in such a way that no contact is needed with the creator of the BioBrick part. It should create a default template for all information of BioBrick parts and devices.

2. Relation to other BBF RFCs

Other BBF RFCs apply for specific documentation of promoters etc.
This document uses specifications which are described in Dspace 33135

3. Copyright Notice

Copyright (C) The BioBricks Foundation (2010). All Rights Reserved.

4. Description of BioBricks

For the specification of biobrick parts there are a few things relevant.

For specification of an biobrick the following structure SHOULD be used:

- Characteristics of BioBrick part/device
- Description of the working of the biobrick
- Physical properties
- Recommended operating conditions
- Status of the BioBrick part/device
- Safety notes
- Contact information

4.1 Characteristics of BioBrick device/part

The user HAVE TO specify what type of BioBrick it is. The choice has been limited by protein generators, reporters, invertors, receivers and senders and measurement devices. There can be more than one type specified.

Additional information which can be provided are inputs and outputs. This can be proteins, environmental properties, molecules or other ways of input which are needed to transcribe the specific BioBrick part.

Furthermore the following information MAY be specified when available

- Polymerase transit rates
- Ribosome transit rates

Furthermore if the component is a device then the key components have to be named. Eventual transfer functions and latencies can also be specified if possible.

4.2 Description of the working of the biobrick

An BioBrick part/device MUST have a description. The description contains short information about the context for which it is created. The function as well as eventual in- and outputs SHOULD be specified if available. It can be seen as an abstract for the BioBrick part/device.

4.3 Physical properties

Every BioBrick part SHOULD have a physical properties as thirth section of the document. It describes the amount of base pairs of the BioBrick part sequence. Furthermore there the sequence MUST be available. The host in which the BioBrick is used SHOULD be specified. If more than one host can be used, then all known hosts MUST be specified.

Furthermore properties as operational temperature and other relevant properties can be stored.

The sequence of the BioBrick SHOULD be specified under the physical properties.

4.4 Recommended operating conditions/usage

For an BioBrick there SHOULD be operating conditions as third section of the document. It means that there have to be specified under which conditions the BioBrick has been used.

4.5 Status of the BioBrick part/device

The status of the BioBrick part/device SHOULD be specified so other users can see if the BioBrick part/device works, or what the current problems with the BioBrick are. Furthermore the scope of how the BioBrick possible can be used can be specified in this section

4.6 Safety notes

Each BioBrick part/device MUST have a safety notice in the second section of the document. This means that even if it is under normal circumstances safe, it SHOULD be included in the safety description. If there are safety hazards involved by use of the BioBrick. This might be in the nature of health risks, environmental risks or other relevant risks.

4.7 Contact information

Every BioBrick SHOULD contain contact information about the designer in case more information about the BioBrick is needed.

5 Future work

Due to the fact that this is a general information standard for BioBrick parts/devices, additional documents can be made which extend this document to support more specific information for other components. For example there can be a document which is specifically designed for promoters and contains additional properties which are specific to promoters.

#. Author's Contact Information

Arend Slomp, arend@igemgroningen.com

David Ekkers, david@igemgroningen.com

References

Conboy et al. "Definitions and Measures of Performance for Standard Biological Parts" <https://dspace.mit.edu/handle/1721.1/31335>