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# Background

To promote public awareness of synthetic biology and introduce its basic ideas to the laymen, our team is devoted to the development of a board game which aims at instructing non-biologists to understand what biobricks can do and how can we use them to make new things.

As game has become a significant part of our spare time, and most of youngsters would rather play games to have fun. We consider it a perfect opportunity to introduce synthetic biology to them.

To attract more people who do not have background to be interested in this area, we develop this board game special designed for synthetic biology. In this game even laymen can have fun. We greatly weakened the hardcore and boring part of the synthetic biology while we keep the main idea of it.

Each player at the beginning of the game obtains 1~2 biobricks, and to simplify it, we named them with color instead of numbers. Just as synthetic biologists designed genetic circuit with biobricks, in this game players could use their own biobricks and cooperate with others to synthesize their own products. Of course, players may argue to get the products and benefits, which is the joyful part of the game.

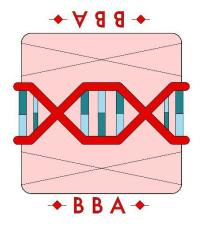
Besides its basic play of the game, we designed several powerful cards, which has close relationship with biological terms.

# Inclusion

## Cards

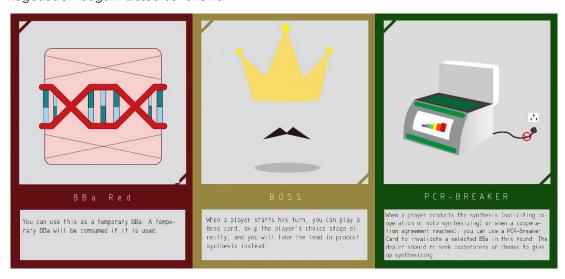
#### 1. BioBricks cards

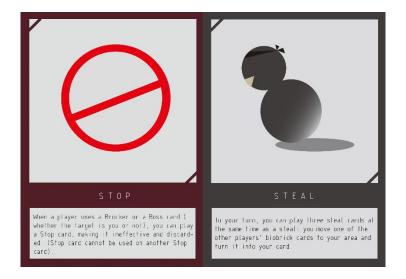
We have six kinds of biobricks cards: Red, Blue, Green, Yellow, Pink and Orange. If there's no accident, player got one at the start can obtain it all the time. Take Red one as an example:



#### 2. Power cards

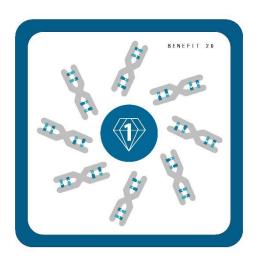
We have five kinds of power cards, which are Temporary BioBricks cards, Steal cards, Boss cards, PCR Breaker cards and STOP cards. They can be used at any time when the negotiation begun. Listed as follows:

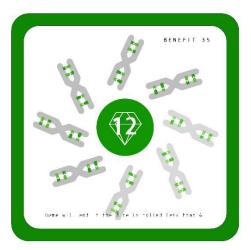




### 3. Benefits Cards

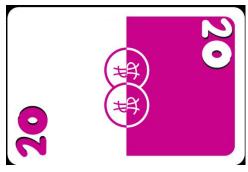
We use this card to mark how many times you and your opponent have synthesize. Once a product has been successfully synthesized, you should turn one to this back. Besides this, on the card there's number of moneys you can get from each benefit and the game's ending requirement. Take the No.1 Benefits card and the No.12 Benefits card as examples:



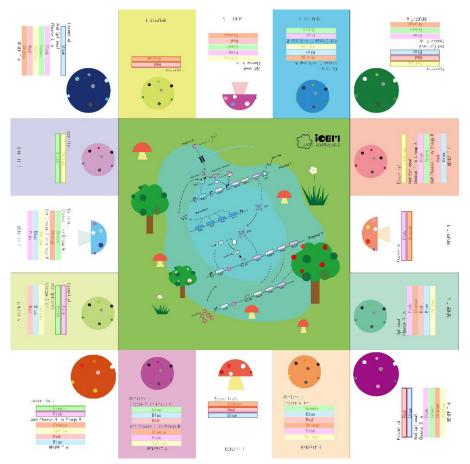


# 4. Money Cards

This cards just stand for money.



# Мар



There are 12 products on the map. Players shared a chess, and throw the dice in turn to move the chess. One can try to synthesize the products where the chess stands on in his turn.

# Tokens

## 1. Chess

## 2. Proof

One product can be synthesized repeatedly, but the first one who synthesize it can get a gift, which may give him a bonus at the end of the game.

# **Brief Introduction**

### Win

At the end of the game, who has the most money wins the game.

### **Process**

#### 1. Game start

At the beginning of the game, each one randomly chooses one (for 4~6 players)/two (for 3 players) biobrick(s) and puts them in the front.

#### 2. In one turn

- 1) Throw the dice and move the dice (whatever clockwise or anticlockwise.
- 2) Analyze the situation and choose one option: (At this time no one can move)
  - a) Draw three power cards.
  - b) Speak out," Let's synthesize!"
- 3) After drawing cards or synthesize (no matter successful or not), the turn ends, and the next one begins his.

### 3. About synthesize

#### A. Requirement

Only when you and your temporary collaborators obtain the enough biobricks or temporary biobricks the product need, you can successfully synthesize the product and get the benefit. To synthesize it, we ignore the consumption of the energy or such things (to simplify it), and only we need is to *show* we have enough biobricks. If you have enough biobricks on your own, of course you don't need to seek for other's help.

#### B. Benefit

Once a product has been successfully synthesized, the boss, who throw the dice and begin this synthesis, can decide how to shared the money. No doubt, the boss and his collaborators should reach an agreement before the product has synthesized. All the rights reserved by the boss, which means, the boss can give money to who even doesn't have the biobricks the products need.

### C. Benefit Card

If a product has been successfully synthesized, the total money depends on the numbers on the present benefit card. And don't forget to turn over a benefit card when one is done.

# End

When someone reach the requirement on the present benefit card, the game ends.

## 4. Check the gifts.

Each proof of product gets you 1 benefit which is on the present benefit card. If you have collected all four kinds of gifts, you can get a bonus 4 benefit. After checking it, get money from the bank.

## 5. Check the money.

Please add all the money together and see who has more money!