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230 777 51

①

genome = 27, 176, 22, 53, 77, 74, 177, 215,
200, 183, 229, 111, 77, 124, 66,
94, 91, 232, 44, 53, 114, 71, 234,
98, 72, 106, 71, 231, 97, 203, 32,
15.

grammar

$\langle e \rangle :: = (\overset{0}{\langle o \rangle} \overset{1}{\langle e \rangle} \overset{2}{\langle e \rangle}) / (\overset{1}{\langle u \rangle} \overset{2}{\langle e \rangle}) / \overset{2}{\langle v \rangle}$

$\langle o \rangle :: = \overset{0}{+} / \overset{1}{-} / \overset{2}{1} / \overset{3}{*}$

$\langle u \rangle :: = \overset{0}{\sin} / \overset{1}{\cos} / \overset{2}{\tan}$

$\langle v \rangle :: = \overset{0}{x} / \overset{1}{y}$

⊗ genome = 27

27 mod 3 = 0 ; index = 0

Phenotype = $(\overset{0}{\langle o \rangle} \overset{1}{\langle e \rangle} \overset{2}{\langle e \rangle})$

⊗ genome = 176

176 mod 4 = 0 ; index = 0

Phenotype = $(\overset{0}{+} \overset{1}{\langle e \rangle} \overset{2}{\langle e \rangle})$

②

⑧ genome = 22

$$22 \bmod 3 = 1; \text{index} = 1$$

$$\text{Phenotype} = (+(\underline{<u>} <e> <e>))$$

⑨ genome = 53

$$53 \bmod 3 = 2; \text{index} = 2$$

$$\text{Phenotype} = (+(\text{Tan } \underline{<e>} <e>))$$

⑩ genome = 77

$$77 \bmod 3 = 2; \text{index} = 2$$

$$\text{Phenotype} = (+(\text{Tan } \underline{<v>} <e>))$$

⑪ genotype = 74

$$74 \bmod 2 = 0; \text{index} = 0$$

$$\text{Phenotype} = (+(\text{Tan } x) \underline{<e>})$$

⑫ genotype = 177

$$177 \bmod 3 = 0; \text{index} = 0$$

$$\text{Phenotype} = (+(\text{Tan } x) (\underline{<o>} <e> <e>))$$

⑬ genotype = 215

$$215 \bmod 4 = 3; \text{index} = 3$$

$$\text{Phenotype} = (+(\text{Tan } x) (*\underline{<e>} <e>))$$

(3)

⑧ genotype = 200

$200 \bmod 3 = 2$; index = 2

Phenotype = $(+ (\tan x) (* \underline{v} \underline{e}))$

⑨ genotype = 183

$183 \bmod 2 = 1$; index = 1

Phenotype = $(+ (\tan x) (* y \underline{e}))$

⑩ genotype = 229

$229 \bmod 3 = 1$; index = 1

Phenotype = $(+ (\tan x) (* y (\underline{u} \underline{e})))$

⑪ genotype = 111

$111 \bmod 3 = 0$; index = 0

Phenotype = $(+ (\tan x) (* y (\sin \underline{z} \underline{e}))))$

⑫ genotype = 77

$77 \bmod 3 = 2$; index = 2

Phenotype = $(+ (\tan x) (* y (\sin \underline{v}))))$

⑬ genotype = 124

$124 \bmod 2 = 0$; index = 0

Phenotype = $(+ (\tan x) (* y (\sin x))))$