

This record is presented in recognition of contributions to Eterna, the internet-scale molecular design platform.
Verify authenticity of this record at: <https://eternagame.org/certificate/35741>

ISSUED**April 19, 2025****PLAYER DETAILS**

PERSONAL NAME	Max Goff
PLAYER NAME	Max Goff
REGISTRATION DATE	January 2012
GLOBAL RANK	55 of 324,354
PUZZLES CLEARED	5,427
PUZZLES CREATED	188
TUTORIALS CLEARED	3/5
ADVANCED TUTORIALS CLEARED	10/10

Eterna puzzles are created by the Eterna team or players. They invite players to devise effective procedures for pairing nucleotides in hypothetical or biologically-inspired RNA strands.

Learn more on Max Goff's player profile: <https://eternagame.org/players/35741>

PUBLICATION CONTRIBUTIONS

Contributions towards pre-print or peer-reviewed scientific publications.

1. EVIDENCE OF AN UNUSUAL POLY(A) RNA SIGNATURE DETECTED BY HIGH-THROUGHPUT CHEMICAL MAPPING

May 2020 [Biochemistry](#) *Gameplay Contributor*

2. PRINCIPLES FOR PREDICTING RNA SECONDARY STRUCTURE DESIGN DIFFICULTY

February 2016 [Journal of Molecular Biology](#) *Gameplay Contributor*

3. RNA DESIGN RULES FROM A MASSIVE OPEN LABORATORY

February 2014 [Proceedings of the National Academy of Sciences](#) *Gameplay Contributor*

4. ETERNABRAIN: AUTOMATED RNA DESIGN THROUGH MOVE SETS FROM AN INTERNET-SCALE RNA VIDEOGAME

June 2019 [PLOS Computational Biology](#) *Gameplay Contributor*

5. RNA SECONDARY STRUCTURE PACKAGES EVALUATED AND IMPROVED BY HIGH-THROUGHPUT EXPERIMENTS

October 2022 [Nature Methods](#) *Gameplay Contributor*

6. SENTRNA: IMPROVING COMPUTATIONAL RNA DESIGN BY INCORPORATING A PRIOR OF HUMAN DESIGN STRATEGIES

March 2018 [Preprint](#) *Gameplay Contributor*

7. THEORETICAL BASIS FOR STABILIZING MESSENGER RNA THROUGH SECONDARY STRUCTURE DESIGN

September 2021 *Research Gameplay Contributor*

8. CROWDSOURCED RNA DESIGN DISCOVERS DIVERSE, REVERSIBLE, EFFICIENT, SELF-CONTAINED MOLECULAR SENSORS

April 2022 *Proceedings of the National Academy of Sciences Gameplay Contributor*

9. COMBINATORIAL OPTIMIZATION OF MRNA STRUCTURE, STABILITY, AND TRANSLATION FOR RNA-BASED THERAPEUTICS

March 2022 *Nature Communications Gameplay Contributor*

10. DEEP LEARNING MODELS FOR PREDICTING RNA DEGRADATION VIA DUAL CROWDSOURCING

December 2022 *Nature Machine Intelligence Gameplay Contributor*

11. COMMUNITY SCIENCE DESIGNED RIBOSOMES WITH BENEFICIAL PHENOTYPES

February 2023 *Nature Communications Gameplay Contributor*

DESIGN SUBMISSIONS

Contributions towards Eterna biomedical challenges experimentally tested through in-vitro synthesis and structure mapping measurements.

	TOTAL (#)	TESTED	BEST (%)
FMN aptamers	4	0	91
First Player Project	17	16	90
Repeatability - Multibranch Loop Protection	3	1	51
The Revolutionary	5	4	74
Kissing Loop Lab - Round 2	3	3	84

FMN Riboswitch Targets: FMNsanity	17	5	97
MS2 Riboswitches On Chip - Round 2	1	1	60
Next Generation Riboswitches On Chip	3	3	46
FMN/MS2 Riboswitch Structure: the Paper	1	1	60
Small Loop Next Generation Riboswitches	1	1	60
Logic Gates	5	5	56
OpenTB - Getting started	2	2	72
OpenTB - Getting started Round 3	2	2	72
OpenTB - Getting started Round 4	60	0	-
OpenTB Round 4	690	0	-
Single-input Switches (Round 2)	500	0	-
'Light-up' Switches (Round 1)	1,200	0	-
Directed Evolution vs. Rational Design (ATP Light-Up Switches)	55	0	-
OpenRibosome Pilot Challenge	5	0	50
Testing Lab mgotrik	3	0	-
OpenRibosome Pilot Challenge Warm-up	23	0	-
OpenVaccine: "Roll Your Own Structure", RNA backbone stability in aqueous solution	60	60	93
OpenVaccine: [Round 3-extended] Lightning Round Design + Vote of Nanoluciferase	20	0	55
OpenRibosome Challenge Round 2	8	0	40
OpenRibosome Challenge Round 3	15	0	-
OpenVaccine: "Roll Your Own Structure" Round 2	7	7	84
OpenVaccine: [Round 5] mRNA designs (Sandbox for RYOS Round 2)	16	0	-
OpenRibosome Challenge Round 4	4	0	-
OpenVaccine - Covid-19 Delta Variant Spike mRNA	1	0	-
OpenVaccine: Nanoluciferase revisited	4	0	-
OpenVaccine Omicron	7	0	-

T-box Switch Pilot	20	0	31
T-box Switch Round 1	20	0	-
OpenASO: RNA Rescue Round 1	18	0	100
OpenKnot Round 1	22	22	51
OpenKnot Round 3	20	0	-
Train the neural net: T-loop pilot	20	0	-

TOTAL (#): The total number of design submissions made to an Eterna challenge.

TESTED: The total number of design submissions made to an Eterna challenge that were experimentally tested.

BEST (%): Player's best score (as a percentage) for experimentally tested design submissions made to an Eterna challenge

