Approval Form (1B)
A completed form is required for each student, including all team members.

1. T	o Be	Comp	leted	by	Student	and	Parent
------	------	------	-------	----	---------	-----	---------------

- a. Student Acknowledgment:
 - I understand the risks and possible dangers to me of the proposed research plan.

Poojan Pandya	<u>````</u>	incarp	06/01/19		
Student's Printed Nameb. Parent/Guardian Approval: I Research Plan/Project Summ	Signature have read and under nary. I consent to my	stand the risks and p	Date Acknowledged (mm/dd/yy (Must be prior to experimentation. possible dangers involved in the n this research.		
Amit Pandya		4-	06/01/19		
Parent/Guardian's Printed Name	Signature ⁽		Date Acknowledged (mm/dd/yy) (Must be prior to experimentation.)		
BEFORE experimentation (humans, ve hazardous biological agents). The SRC/IRB has carefully studied this proje Project Summary and all the required form	rtebrates or potentially ect's Research Plan/ ns are included. My	OR This project was (not home or hig by the proper ins	with no prior fair SRC/IRB approval. conducted at a regulated research institution in school, etc.), was reviewed and approved titutional board before experimentation and		
BEFORE experimentation (humans, vehazardous biological agents). The SRC/IRB has carefully studied this proje Project Summary and all the required form signature indicates approval of the Researc Summary before the student begins experi	rtebrates or potentially ect's Research Plan/ ns are included. My th Plan/Project	b. Required fo Institutions OR This project was (not home or hig by the proper ins complies with the institutional app	conducted at a regulated research institution th school, etc.), was reviewed and approved titutional board before experimentation and entel ISEF Rules. Attach (1C) and any require rovals (e.g. IACUC, IRB). P. AMMAL a con		
BEFORE experimentation (humans, vehazardous biological agents). The SRC/IRB has carefully studied this project Summary and all the required form signature indicates approval of the Researce Summary before the student begins experior SRC/IRB Chair's Printed Name Signature Date of A	rtebrates or potentially ect's Research Plan/ ns are included. My th Plan/Project	b. Required fo Institutions OR This project was (not home or hig by the proper ins complies with the institutional app MANA A SRC Chair's Prints	with no prior fair SRC/IRB approval. conducted at a regulated research institution the school, etc.), was reviewed and approved titutional board before experimentation and a Intel ISEF Rules. Attach (1C) and any require rovals (e.g. IACUC, IRB). P. AMMALACOM		

SRC Approval After Experimentation and Be I certify that this project adheres to the appro		
Regional SRC Chair's Printed Name	Signature	Date of Approval (mm/dd/yy)
State/National SRC Chair's Printed Name (where applicable)	Signature	Date of Approval (mm/dd/yy)

Approval Form (1B)
A completed form is required for each student, including all team members.

1.	To Be	Compl	leted	by	Stud	lent	and	Par	en	t
----	-------	-------	-------	----	------	------	-----	-----	----	---

- a. Student Acknowledgment:
 - I understand the risks and possible dangers to me of the proposed research plan.
 - I have read the ISEF Rules and Guidelines and will adhere to all International Rules when conducting this
 - I have read and will abide by the following Ethics statement

Student researchers are expected to maintain the highest standards of honesty and integrity. Scientific fraud and misconduct

Leo Takemaru		o lat	5/28/19		
Student's Printed Name	Signature		Date Acknowledged (mm/d (Must be prior to experiment		
			d the risks and possible dangers involved in the participating in this research.		
Ken-Ichi Takemaru	=	Lin	5/28/19		
Parent/Guardian's Printed Na	ame Signature		- .	Date Acknowledged (mm/dd/yy) (Must be prior to experimentation.)	
a. Required for projects that n	eed prior SRC/IRB approval		b. Required for research conducted at all Regulated Re	searcl	
a. Required for projects that n	eed prior SRC/IRB approval		b. Required for research conducted at all Regulated Re	searc	
a. Required for projects that no BEFORE experimentation (h hazardous biological agents).	eed prior SRC/IRB approval numans, vertebrates or potentiall		b. Required for research conducted at all Regulated Re Institutions with no prior fair SRC/IRB approval.		
a. Required for projects that no BEFORE experimentation (h	eed prior SRC/IRB approval numans, vertebrates or potentiall d this project's Research Plan/	у	b. Required for research conducted at all Regulated Re Institutions with no prior fair SRC/IRB approval. This project was conducted at a regulated research institut (not home or high school, etc.), was reviewed and approve	tion d by tl	
Required for projects that no BEFORE experimentation (he hazardous biological agents). The SRC/IRB has carefully studie Project Summary and all the requisignature indicates approval of the second signature indicates.	eed prior SRC/IRB approval numans, vertebrates or potentiall d this project's Research Plan/ uired forms are included. My ne Research Plan/Project Summa	y OR	b. Required for research conducted at all Regulated Re Institutions with no prior fair SRC/IRB approval. This project was conducted at a regulated research institut (not home or high school, etc.), was reviewed and approve proper institutional board before experimentation and con with the ISEF Rules. Attach (1C) and any required institutions.	tion d by t mplies	
Required for projects that no BEFORE experimentation (he hazardous biological agents). The SRC/IRB has carefully studie Project Summary and all the requirements.	eed prior SRC/IRB approval numans, vertebrates or potentiall d this project's Research Plan/ uired forms are included. My ne Research Plan/Project Summa	y OR	b. Required for research conducted at all Regulated Re Institutions with no prior fair SRC/IRB approval. This project was conducted at a regulated research institut (not home or high school, etc.), was reviewed and approve proper institutional board before experimentation and con	tion d by t mplies	
Required for projects that no BEFORE experimentation (he hazardous biological agents). The SRC/IRB has carefully studie Project Summary and all the requisignature indicates approval of the second signature indicates.	eed prior SRC/IRB approval numans, vertebrates or potentiall d this project's Research Plan/ uired forms are included. My ne Research Plan/Project Summa mentation.	y OR	b. Required for research conducted at all Regulated Re Institutions with no prior fair SRC/IRB approval. This project was conducted at a regulated research institut (not home or high school, etc.), was reviewed and approve proper institutional board before experimentation and con with the ISEF Rules. Attach (1C) and any required institutions.	tion d by t	
a. Required for projects that no BEFORE experimentation (he hazardous biological agents). The SRC/IRB has carefully studie Project Summary and all the requisignature indicates approval of the before the student begins experimal SRC/IRB Chair's Printed Name	eed prior SRC/IRB approval numans, vertebrates or potentiall d this project's Research Plan/ uired forms are included. My ne Research Plan/Project Summa	y OR	b. Required for research conducted at all Regulated Re Institutions with no prior fair SRC/IRB approval. This project was conducted at a regulated research institut (not home or high school, etc.), was reviewed and approve proper institutional board before experimentation and con with the ISEF Rules. Attach (1C) and any required instituti approvals (e.g. IACUC, IRB). Maria P - Avalagacion	tion of by t mplies ional	

SRC Approval After Experimentation and Bef I certify that this project adheres to the approv		
Regional SRC Chair's Printed Name	Signature	Date of Approval (mm/dd/yy)
State/National SRC Chair's Printed Name (where applicable)	Signature	Date of Approval (mm/dd/yy)