



**9th INDES 2020**  
**LIMITLESS MIND:**  
EMPOWERING INNOVATION THROUGH VISUALIZATION



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ABSTRACTS BOOK

The 9th International Innovation, Invention  
& Design Competition  
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# AOX KIT

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## 1. INTRODUCTION

Antioxidants are very crucial in daily diet to fight against the free radicals. Free radicals always develop in our body systems and this cause damages to our body cells. Huge amount of antioxidants is required to eliminate those free radicals, thus preventing cancer developments and heart diseases among aging people. In this new era of technology, Aox Kit is the only method to determine the amount of antioxidants for our foods in an innovative, creative and simple way that did not cost a lot of money. In many industries, they determine an antioxidant with ORAC-ESSAY that too expensive and take a lot of time. Vigilance on the amount of antioxidants in our daily meal is ensures that our body is well prepared to fight against the free radicals that constantly produced in our body. Aox Kit introduces an innovative way in measuring concentration of antioxidants by only using a mobile application, called “Colour Name”. Hence, our main objective to address awareness of antioxidants and reduce the risk of getting cancer can be achieved.

## 2. METHODOLOGY

Aox Kit is mobile. With the use of a kit and an application called “Colour Name”, only seven minutes is required to derive the concentration of antioxidant in foods. The formula to obtain the concentration is created based on the plotted graph, intensity of RGB (Red, Green and Blue) colour against the concentration of antioxidant. The various intensity of RGB colour from yellow to purple is the colour change resulted from the reaction between DPPH and the antioxidant present in the food sample.

## 3. RESULTS

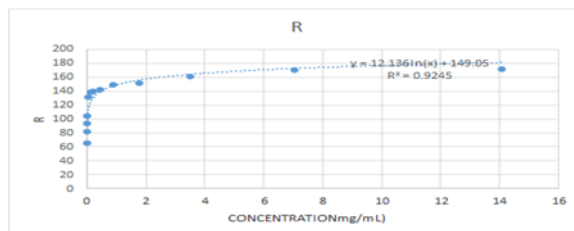
Table 1. Data obtained for RGB colours for specific concentration of antioxidants

Conc. (mg/mL)	14.100	7.050	3.525	1.762	0.881	0.440	0.220	0.110	0.055	0.028	0.013	0.007	0.003
Red	172	170	161	151	149	142	140	138	131	104	94	82	65
Green	156	154	148	138	145	138	142	137	105	73	55	39	23
Blue	97	109	102	94	115	103	115	107	83	72	76	74	60

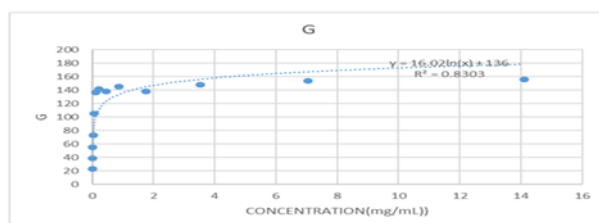


Figure 1. Colour changes from the reaction between DPPH and antioxidant

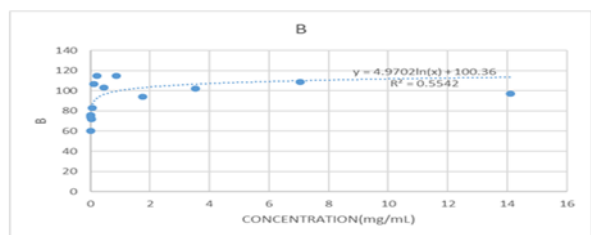
‘Colour Name’ mobile application detects the RGB value for each test tube and plot the graph against the concentration of antioxidant.



**Figure 2.** Graph Plot for Red against concentration of antioxidant



**Figure 3.** Graph Plot for Green against concentration of antioxidant



**Figure 4.** Graph Plot for Blue against concentration of antioxidant

#### 4. CONCLUSION

The pink of health of our us and our next generation is depending on this Aox Kit to succeed. In addition, we can reduce the risk of people from getting diseases by now or never especially cancer.

#### REFERENCES

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2. Chia Suet Lin, 2018. Discovery of Medicinal Plants with Antioxidant Properties.



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Tarikh : 30 Ogos 2022

YBhg. Profesor Ts Sr Dr Md Yusof Hamid, PMP, AMP  
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YBhg. Profesor

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Perkara di atas adalah dirujuk.

2. Pihak Perpustakaan ingin memohon kelulusan YBhg. Profesor untuk membuat imbasan (*digitize*) dan memuat naik semua jenis penerbitan di bawah UiTM Cawangan Perak melalui Repositori Institusi UiTM, PTAR.
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Kelulusan daripada pihak YBhg. Profesor dalam perkara ini amat dihargai.

Sekian, terima kasih.

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Yang benar