## **Annex A: Extraction of Polyphenols**

Table 7: Raw data for construction of Folin-Ciocalteau Gallic Acid Standard Calibration Curve

| <b>Phenol Concentration</b> | ABS at 765 nm (±0.005A) |         |         |         |         |  |  |  |  |
|-----------------------------|-------------------------|---------|---------|---------|---------|--|--|--|--|
| (mg/L)                      | Trial 1                 | Trial 2 | Trial 3 | Trial 4 | Trial 5 |  |  |  |  |
| 500.0                       | 1.341                   | 1.359   | 1.337   | 1.347   | 1.346   |  |  |  |  |
| 300.0                       | 1.571                   | 1.557   | 1.337   | 1.547   | 1.540   |  |  |  |  |
| 250.0                       | 0.652                   | 0.644   | 0.648   | 0.661   | 0.657   |  |  |  |  |
| 150.0                       | 0.394                   | 0.393   | 0.388   | 0.389   | 0.39    |  |  |  |  |
| 100.0                       | 0.31                    | 0.312   | 0.316   | 0.315   | 0.306   |  |  |  |  |
| 50.0                        | 0.192                   | 0.188   | 0.186   | 0.197   | 0.195   |  |  |  |  |
| 0.0                         | 'blank'                 | 'blank' | 'blank' | 'blank' | 'blank' |  |  |  |  |

Table 8: Table showing absorbance readings of green tea and banana leaves extracts

|                           | ABS at 765 nm (±0.005A) |         |         |         |         |  |  |  |  |
|---------------------------|-------------------------|---------|---------|---------|---------|--|--|--|--|
| 20 μl of Extract (±0.1μl) | Trial 1                 | Trial 2 | Trial 3 | Trial 4 | Trial 5 |  |  |  |  |
| Green Tea Leaves          | 1.308                   | 1.302   | 1.296   | 1.325   | 1.329   |  |  |  |  |
| Banana Leaves             | 0.612                   | 0.596   | 0.608   | 0.597   | 0.592   |  |  |  |  |

## **Annex B: Antimicrobial Assay (Minimum Bactericidal Concentration)**

Table 9: Antimicrobial assay results for 100.0μl of green tea leaves extract combined with 1000μl of 10<sup>5</sup> cfu/ml bacterial broth culture

| Concentration of green tea extract (dilution factor) |       | 21 | 2-1 | 2-2 | 2-3 | 2-4 | 2 <sup>-5</sup> | 2-6 | 2-7 |
|--|-------|----|-----|-----|-----|-----|-----------------|-----|-----|
|  | Trial |    |     |     |     |     |                 |     |     |
|  | 1     | 0  | 0   | 0   | 0   | 0   | 47              | 60  | 72  |
| NI I GE  | 2     | 0  | 0   | 0   | 0   | 0   | 49              | 58  | 70  |
| Number of <i>E.</i> coli colonies                    | 3     | 0  | 0   | 0   | 0   | 0   | 51              | 66  | 68  |
| counted  | 4     | 0  | 0   | 0   | 0   | 0   | 43              | 62  | 71  |
| Counted  | 5     | 0  | 0   | 0   | 0   | 0   | 41              | 61  | 69  |
|  |       |    |     |     |     |     |                 |     |     |
|  | Trial |    |     |     |     |     |                 |     |     |
|  | 1     | 0  | 0   | 0   | 0   | 0   | 40              | 51  | 66  |
| Number of  M. luteus  colonies counted               | 2     | 0  | 0   | 0   | 0   | 0   | 42              | 52  | 71  |
|  | 3     | 0  | 0   | 0   | 0   | 0   | 38              | 55  | 68  |
|  | 4     | 0  | 0   | 0   | 0   | 0   | 45              | 50  | 62  |
| colonics counted                                     | 5     | 0  | 0   | 0   | 0   | 0   | 34              | 47  | 65  |

Table 10: Antimicrobial assay results for 100.0μl of banana leaves extract combined with 1000μl of 10<sup>5</sup> cfu/ml bacterial broth culture

| Concentration of<br>banana leaves<br>extract (dilution<br>factor) |       | 21 | 2-1 | 2-2 | 2-3 | 2-4 | 2-5 | 2-6 | 2-7 |
|---|-------|----|-----|-----|-----|-----|-----|-----|-----|
|   | Trial |    |     |     |     |     |     |     |     |
|   | 1     | 0  | 0   | 0   | 29  | 42  | 55  | 59  | 79  |
| Number of E   | 2     | 0  | 0   | 0   | 26  | 35  | 46  | 65  | 77  |
| Number of <i>E.</i> coli colonies                                 | 3     | 0  | 0   | 0   | 21  | 31  | 48  | 68  | 83  |
| counted   | 4     | 0  | 0   | 0   | 18  | 36  | 51  | 69  | 81  |
| Countre   | 5     | 0  | 0   | 0   | 16  | 33  | 49  | 62  | 75  |
|   |       |    |     |     |     |     |     |     |     |
|   | Trial |    |     |     |     |     |     |     |     |
|   | 1     | 0  | 0   | 0   | 0   | 28  | 44  | 53  | 74  |
| Number of   | 2     | 0  | 0   | 0   | 0   | 29  | 42  | 58  | 70  |
|   | 3     | 0  | 0   | 0   | 0   | 32  | 46  | 62  | 69  |
| M. luteus colonies counted  | 4     | 0  | 0   | 0   | 0   | 30  | 51  | 61  | 72  |
| colonies counted  | 5     | 0  | 0   | 0   | 0   | 31  | 49  | 58  | 65  |

Table 11: Antimicrobial assay results for  $100.0\mu l$  of antibiotic ampicillin combined with  $1000\mu l$  of  $10^5$  cfu/ml bacterial broth culture

| Concentration of antibiotic ampicillin (dilution factor) |       | 21 | 2-1 | 2-2 | 2-3 | 2-4 | <b>2</b> -5 | 2-6 | 2-7 |
|--|-------|----|-----|-----|-----|-----|-------------|-----|-----|
|  | Trial |    |     |     |     |     |             |     |     |
|  | 1     | 0  | 0   | 3   | 42  | 45  | 59          | 66  | 83  |
| N 1 CF 1   | 2     | 0  | 0   | 1   | 33  | 39  | 56          | 69  | 80  |
| Number of <i>E. coli</i> colonies counted                | 3     | 0  | 0   | 6   | 27  | 32  | 47          | 72  | 76  |
| colonies counteu   | 4     | 0  | 0   | 2   | 26  | 40  | 49          | 70  | 78  |
|  | 5     | 0  | 0   | 0   | 23  | 43  | 61          | 65  | 82  |
|  |       |    |     |     |     |     |             |     |     |
|  | Trial |    |     |     |     |     |             |     |     |
|  | 1     | 0  | 0   | 0   | 0   | 27  | 44          | 66  | 70  |
|  | 2     | 0  | 0   | 0   | 0   | 34  | 42          | 61  | 73  |
| Number of  | 3     | 0  | 0   | 0   | 0   | 32  | 40          | 60  | 77  |
| M. luteus colonies counted                               | 4     | 0  | 0   | 0   | 0   | 36  | 51          | 65  | 71  |
| counted  | 5     | 0  | 0   | 0   | 0   | 29  | 49          | 58  | 68  |

**Note:** Antimicrobial assay results (raw data) for  $100.0\mu l$  of ethyl acetate combined with  $1000\mu l$  of  $10^5$  cfu/ml bacterial broth culture is not shown as no appreciable antimicrobial activity was observed, and the exact number of bacterial colonies was too dense to be counted.

## **Annex C: Synergy Studies**

Table 12: Antimicrobial assay results for 100.0μl of antibiotic ampicillin combined with 1000μl of 10<sup>5</sup> cfu/ml bacterial broth culture (applied in close association with green tea extract "enhanced" agar)

| Concentration of antibiotic ampicillin (dilution factor) |       | 21 | 2-1 | 2-2 | 2-3 | 2-4 | 2-5 | 2-6 | 2-7 |
|--|-------|----|-----|-----|-----|-----|-----|-----|-----|
|  | Trial |    |     |     |     |     |     |     |     |
|  | 1     | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Number of E  | 2     | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Number of <i>E.</i> coli colonies                        | 3     | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| counted  | 4     | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
|  | 5     | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
|  |       |    |     |     |     |     |     |     |     |
|  | Trial |    |     |     |     |     |     |     |     |
|  | 1     | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Number of M.   | 2     | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
|  | 3     | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| luteus colonies counted                                  | 4     | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Counted  | 5     | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   |

Table 13: Antimicrobial assay results for 100.0μl of antibiotic ampicillin combined with 1000μl of 10<sup>5</sup> cfu/ml bacterial broth culture (applied in close association with banana leaves extract "enhanced" agar)

| Concentration of antibiotic ampicillin (dilution factor) |       | 21 | 2-1 | 2-2 | 2-3 | 2-4 | 2-5 | 2-6 | 2-7 |
|--|-------|----|-----|-----|-----|-----|-----|-----|-----|
|  | Trial |    |     |     |     |     |     |     |     |
|  | 1     | 0  | 0   | 0   | 0   | 0   | 33  | 49  | 62  |
| Normals are of E   | 2     | 0  | 0   | 0   | 0   | 0   | 23  | 51  | 67  |
| Number of <i>E.</i> coli colonies                        | 3     | 0  | 0   | 0   | 0   | 0   | 29  | 47  | 58  |
| counted  | 4     | 0  | 0   | 0   | 0   | 0   | 35  | 54  | 64  |
| Countre  | 5     | 0  | 0   | 0   | 0   | 0   | 28  | 42  | 65  |
|  |       |    |     |     |     |     |     |     |     |
|  | Trial |    |     |     |     |     |     |     |     |
|  | 1     | 0  | 0   | 0   | 0   | 0   | 0   | 36  | 46  |
|  | 2     | 0  | 0   | 0   | 0   | 0   | 0   | 39  | 49  |
| Number of <i>M</i> .                                     | 3     | 0  | 0   | 0   | 0   | 0   | 0   | 32  | 51  |
| luteus colonies<br>counted                               | 4     | 0  | 0   | 0   | 0   | 0   | 0   | 42  | 53  |
| Counted  | 5     | 0  | 0   | 0   | 0   | 0   | 0   | 38  | 44  |