Supplementary Material

# Supplementary Tables

Table S1. Simulation results of Orange peel

|  |  |  |  |
| --- | --- | --- | --- |
| Fruit waste input (kg/h) | 100000.00 | | |
| Output (kg/h) | Biochar | Syngas | Bio-oil |
| N2 | 0.00 | 520.98 | 0.00 |
| H2O | 0.00 | 647.37 | 23060.02 |
| H2 | 0.00 | 1016.01 | 0.00 |
| CO | 0.00 | 1108.02 | 0.00 |
| CO2 | 0.00 | 35223.79 | 0.30 |
| CH4 | 0.00 | 6865.57 | 0.00 |
| C | 21825.50 | 0.00 | 0.00 |
| Total product output (kg/h) | 21825.50 | 45381.74 | 23060.32 |
| % Product yield (kg/kg input) | 24.18 | 50.27 | 25.55 |

Table S2. Simulation results of Banana peel

|  |  |  |  |
| --- | --- | --- | --- |
| Fruit waste input (kg/h) | 100000.00 | | |
| Output (kg/h) | Biochar | Syngas | Bio-oil |
| N2 | 0.00 | 1712.57 | 0.00 |
| H2O | 0.00 | 660.44 | 22973.71 |
| H2 | 0.00 | 1109.53 | 0.00 |
| CO | 0.00 | 1022.17 | 0.00 |
| CO2 | 0.00 | 29664.44 | 0.24 |
| CH4 | 0.00 | 8102.23 | 0.00 |
| C | 16928.53 | 0.00 | 0.00 |
| Total product output (kg/h) | 16928.53 | 42271.39 | 22973.95 |
| % Product yield (kg/kg input) | 20.60 | 51.44 | 27.96 |

Table S3. Simulation results of Mango endocarp

|  |  |  |  |
| --- | --- | --- | --- |
| Fruit waste input (kg/h) | 100000.00 | | |
| Output (kg/h) | Biochar | Syngas | Bio-oil |
| N2 | 0.00 | 275.08 | 0.00 |
| H2O | 0.00 | 685.20 | 24428.18 |
| H2 | 0.00 | 1051.57 | 0.00 |
| CO | 0.00 | 1200.65 | 0.00 |
| CO2 | 0.00 | 39064.78 | 0.33 |
| CH4 | 0.00 | 6946.52 | 0.00 |
| C | 21776.02 | 0.00 | 0.00 |
| Total product output (kg/h) | 21776.02 | 49223.81 | 24428.51 |
| % Product yield (kg/kg input) | 22.82 | 51.58 | 25.60 |

Table S4. Simulation results of Apricot kernel shell

|  |  |  |  |
| --- | --- | --- | --- |
| Fruit waste input (kg/h) | 100000.00 | | |
| Output (kg/h) | Biochar | Syngas | Bio-oil |
| N2 | 0.00 | 337.82 | 0.00 |
| H2O | 0.00 | 668.89 | 23957.98 |
| H2 | 0.00 | 1163.75 | 0.00 |
| CO | 0.00 | 1040.78 | 0.00 |
| CO2 | 0.00 | 30006.44 | 0.25 |
| CH4 | 0.00 | 8696.69 | 0.00 |
| C | 27805.57 | 0.93 | 0.86 |
| Total product output (kg/h) | 27805.57 | 41915.30 | 23959.09 |
| % Product yield (kg/kg input) | 29.68 | 44.74 | 25.58 |

Table S5. Simulation results of Date pits

|  |  |  |  |
| --- | --- | --- | --- |
| Fruit waste input (kg/h) | 100000.00 | | |
| Output (kg/h) | Biochar | Syngas | Bio-oil |
| N2 | 0.00 | 884.52 | 0.00 |
| H2O | 0.00 | 709.66 | 24979.17 |
| H2 | 0.00 | 1257.58 | 0.00 |
| CO | 0.00 | 1058.39 | 0.00 |
| CO2 | 0.00 | 29455.46 | 0.25 |
| CH4 | 0.00 | 9640.08 | 0.00 |
| C | 30616.42 | 0.00 | 0.00 |
| Total product output (kg/h) | 30616.42 | 43005.69 | 24979.42 |
| % Product yield (kg/kg input) | 31.05 | 43.62 | 25.33 |