

Table S1. The composition content of corn cob dilute acid hydrolysate before and after the biological detoxification using various quantities of *A. niger* M13 mycelial pellets.

| Inoculation amount | Time(h) | Glucose(g/L) | Xylose(g/L) | Arabinose(g/L) | Furfural(g/L) | HMF(g/L) | Acetic acid(g/L) |
|--------------------|---------|--------------|-------------|----------------|---------------|----------|------------------|
| 5% | 0 h | 10.23 | 55.81 | 8.92 | 1.29 | 0.33 | 6.94 |
| | 288 h | 0.48 | 0 | 2.86 | 0 | 0 | 0 |
| 10% | 0 h | 11.41 | 54.68 | 8.57 | 1.23 | 0.32 | 6.68 |
| | 288 h | 0 | 0 | 0 | 0 | 0 | 0 |
| 15% | 0 h | 12.51 | 50.16 | 8.45 | 1.17 | 0.31 | 6.21 |
| | 288 h | 0 | 0.138 | 0 | 0 | 0 | 0 |
| 20% | 0 h | 13.58 | 49.01 | 8.17 | 1.13 | 0.29 | 6.03 |
| | 288 h | 0 | 0.37 | 0 | 0 | 0 | 0 |

Table S2. The composition content of corn cob dilute acid hydrolysate before and after the biological detoxification using various quantities of *A. niger* M13 spores.

| Spores number | Time(h) | Glucose(g/L) | Xylose(g/L) | Arabinose(g/L) | Furfural(g/L) | HMF(g/L) | Acetic acid(g/L) |
|----------------------|---------|--------------|-------------|----------------|---------------|----------|------------------|
| 0.181×10^8 | 0 h | 9.06 | 60.49 | 9.52 | 1.35 | 0.37 | 7.52 |
| | 240 h | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.4525×10^8 | 0 h | 9.06 | 60.49 | 9.52 | 1.35 | 0.37 | 7.52 |
| | 240 h | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.905×10^8 | 0 h | 9.06 | 60.49 | 9.52 | 1.35 | 0.37 | 7.52 |
| | 240 h | 0 | 0 | 0 | 0 | 0 | 0 |
| 1.3575×10^8 | 0 h | 9.06 | 60.49 | 9.52 | 1.35 | 0.37 | 7.52 |
| | 240 h | 0 | 0 | 0 | 0 | 0 | 0 |

Table S3. The sugar and inhibitor concentration in corncob dilute acid hydrolysate within 24 hours of biological detoxification.

| Time | Glucose(g/L) | Xylose(g/L) | Arabinose(g/L) | Furfural(g/L) | HMF(g/L) | Acetic acid(g/L) |
|------|--------------|-------------|----------------|---------------|----------|------------------|
| 0 | 9.06 | 60.48 | 9.52 | 1.35 | 0.37 | 7.52 |
| 12 | 7.84 | 58.45 | 9.01 | 0 | 0.28 | 6.45 |
| 24 | 6.13 | 52.66 | 8.38 | 0 | 0 | 5.15 |