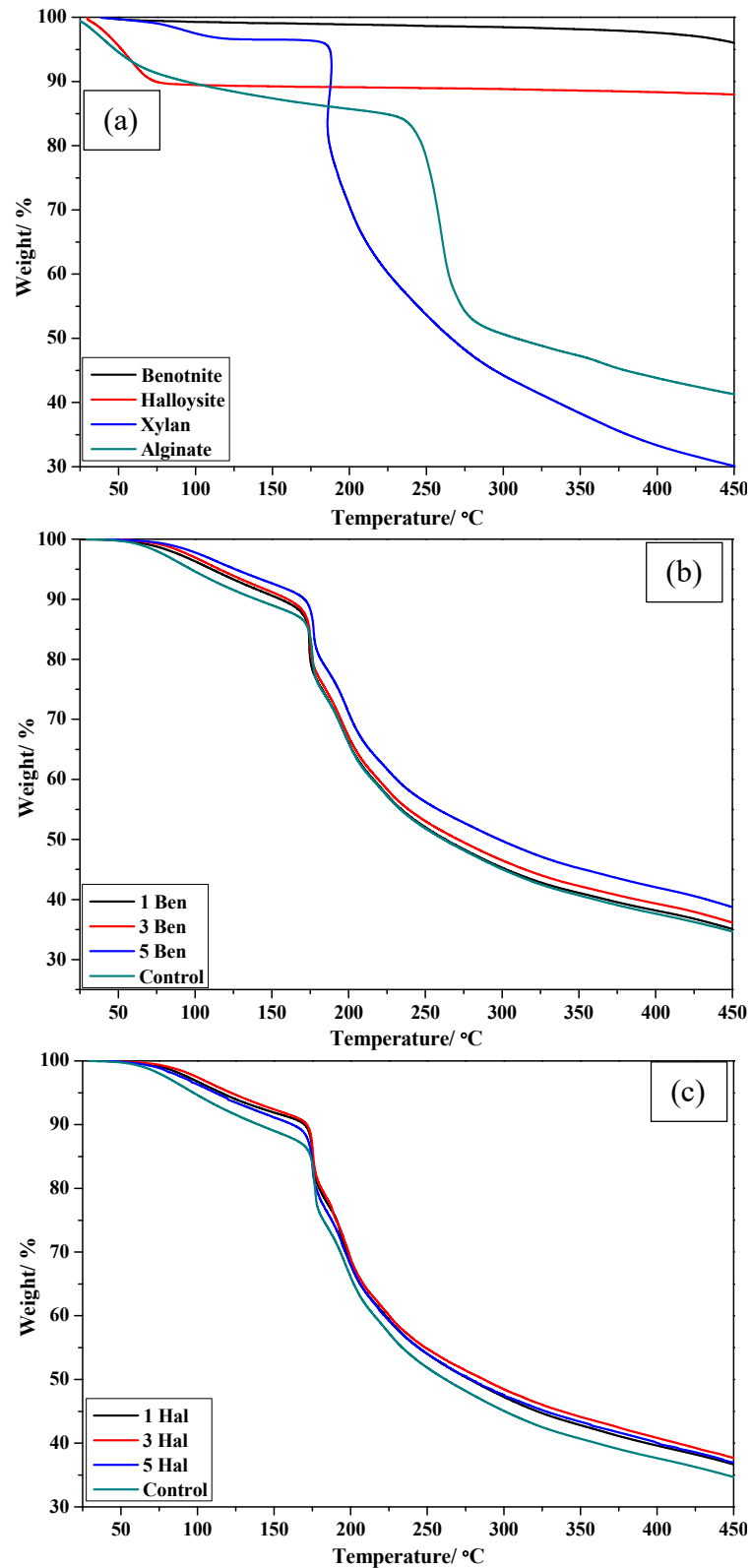


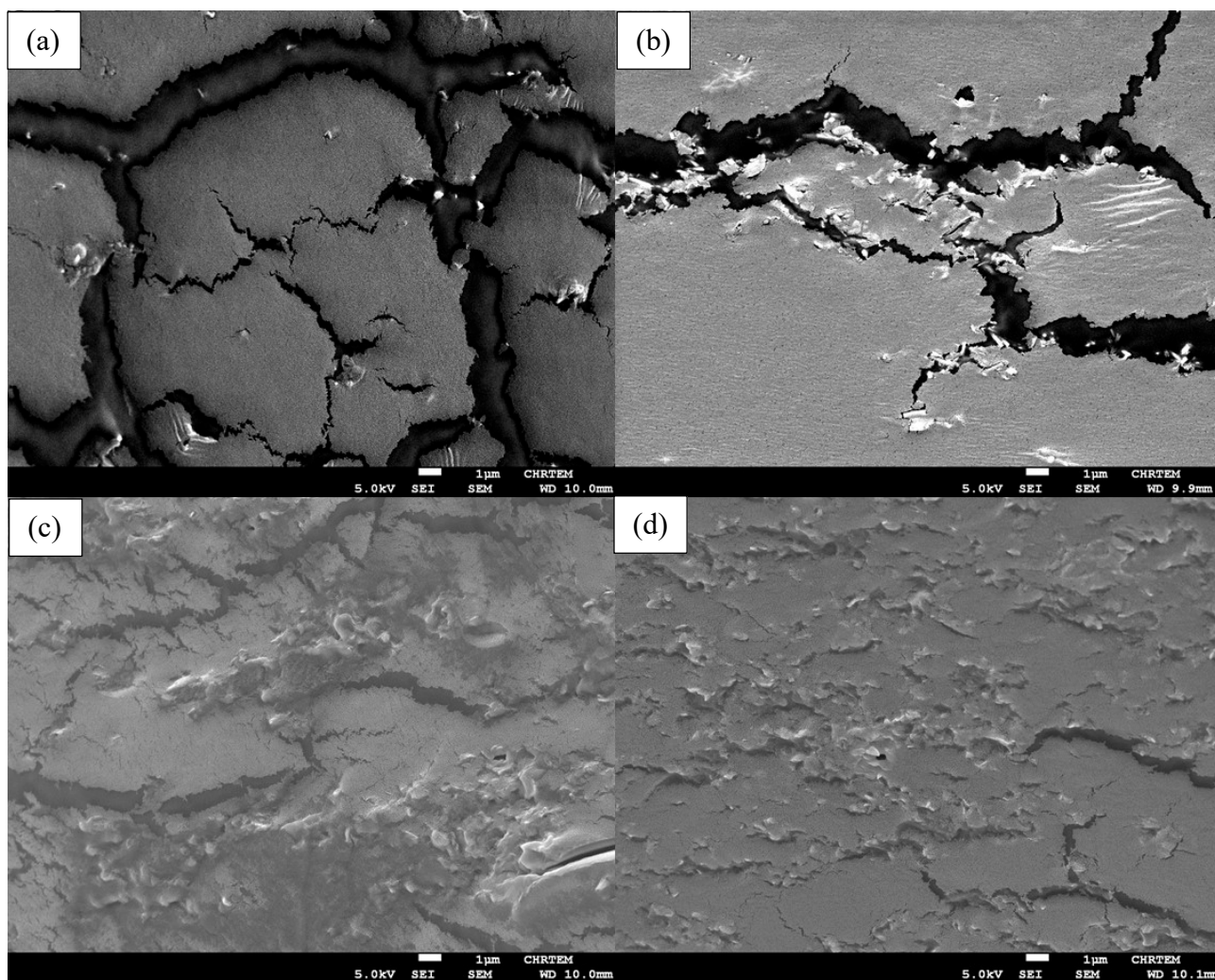
**Figure S1:** Chemical structure of (a) homoxylan and (b) alginate.

**Table S1:** Surface area and pore size of clay used as reinforcement.

| Clay       | BET surface area/ $\text{m}^2 \cdot \text{g}^{-1}$ | Pore size/ $\text{\AA}$ |
|------------|--|-------------------------|
| Bentonite  | 20.42  | 59.00                   |
| Halloysite | 26.35  | 57.47                   |



**Figure S2:** Thermograms of (a) xylan, alginate, bentonite and halloysite, (b) xylan-alginate films containing bentonite and (c) xylan-alginate films containing halloysite.



**Figure S3:** SEM cross-section images of films containing (a) 1wt% halloysite, (b) 3wt% halloysite, (c) 1wt% bentonite and (d) 3wt% bentonite.