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Corrigendum

Corrigendum to "The effect of silica nanoparticles on the morphology, mechanical properties and thermal degradation kinetics of PMMA" [Polym Degrad Stab 97 (2012) 452–459]

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The authors regret that in the above article there are errors in the discussion section. The paragraphs on p. 455–456 starting with 'The activation energies of degradation of PMMA increased with...' and ending with '...are apparently formed with increasing α, that decompose first and require a lower E_a' should be replaced with the following:

The activation energies of degradation of PMMA increased with an increase in the degree of conversion, while those of PMMA-silica (5 wt.%) decreased. The PMMA-silica (5 wt.%) shows higher activation energies of degradation up to around 40% mass loss (Figure 9), while at higher degrees of conversion those of PMMA-silica (5 wt.%) are lower. In the case of pure PMMA the increase in activation energy has been explained by Gao *et al.* [1] as a change in degradation mechanism from unzipping to random chain scission. In the presence of the nanoparticles, however, the activation energies of degradation at lower degrees of conversion are significantly higher than those of pure PMMA, and these activation energies slightly decrease with increasing degree of conversion and were lower than those for pure PMMA at degrees of conversion above 0.4. It is possible that strong interaction between PMMA and the silica nanoparticles retarded the diffusion of the volatile degradation products from the sample, which led to unnaturally high activation energy values at low degrees of conversion. According to several authors [1–5], the presence of silica seems to catalyze the degradation process by giving an alternative degradation route. In the presence of silica, certain intermediates are apparently formed with increasing α, that decompose first and require a lower E_a. This is an acceptable explanation for our own observations at higher degrees of conversion.

In addition the caption of Figure 9 should be replaced with the following:

Figure 9. E_a values obtained by the OFW and KAS methods: (1) PMMA-silica (5 wt.%) (KAS), (2) PMMA-silica (5 wt.%) (OFW), (3) PMMA (KAS), (4) PMMA (FWO).

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