Vissenberg and de Jong Reply: In Ref. [1], the electric-field induced quenching of photoluminescence (PL) in blends of poly(phenyl-p-phenylene vinylene) (PPPV) and polycarbonate (PC) as a function of the applied electric field and of the PPPV concentration has been reported. It was found that the quenching is small but finite at low concentrations and that it saturates at concentrations above 30%. We have shown that this concentration dependence can be well understood using a theory that combines the migration of excitations between different PPPV chain segments with a field-induced dissociation of excitons that takes place on chain [2]. Conwell [3] opposes to the on-chain dissociation process in favor of an interchain dissociation process that involves the formation of an indirect exciton, i.e., a bound electron-hole pair on separate chains.

This type of (intermolecular) dissociation can account for field-induced PL quenching in molecularly doped polymers [4]. Unlike in the PPPV/PC blends, the quenching is zero at low concentrations and increases over the entire concentration range studied. In agreement with our interpretation, Deussen *et al.* ascribe these differences to the occurrence of on-chain dissociation in the polymer PPPV [4]. Conwell argues that the saturation of quenching may be due to a phase segregation in the polymer blend [3]. Although we cannot exclude the possibility of phase segregation, there are several reasons to expect on-chain dissociation to play an important role.

According to Conwell, the small quenching at low concentrations of PPPV is “clearly evidence against exciton dissociation on chain” [3]. However, our theory applies to the *whole* range of concentrations and gives good agreement with experiment. In particular, we have found that the quenching at low concentrations corresponds with the probability of dissociation on an isolated chain (see Fig. 1, Ref. [2]).

Furthermore, Conwell claims that the average conjugation length in PPPV is too short for on-chain dissociation to take place. We note that, although the exciton is *delocalized* along $\sim$6 monomers, its size, i.e., the distance between the electron and hole, may be as small as 2 monomers [5]. Most importantly, however, an on chain dissociation mechanism does not necessarily imply that the dissociation takes place within one conjugated segment of the polymer chain. After an initial charge separation within the chain segment, the on-chain dissociation mechanism may be completed by a subsequent jump of a charge carrier towards the next segment on the same chain. Note that this process does not depend on the nearest-neighbor distance, in contrast with indirect exciton formation.

Regarding the existence of indirect exitons, Conwell points out that various indications of this species have been found in derivatives of poly(p-phenylene vinylene) [3]. If such indications, like excimer emission, were to be found in PPPV/PC blends, one would indeed expect an additional contribution of interchain dissociation to the field-induced PL quenching. The real question is, however, which is the dominant mechanism for the dissociation of excitons in the presence of a strong electric field.

The model presented in Ref. [2] is not specific for the details of the dissociation mechansm. Consequently, it can be applied to describe on-chain as well as interchain dissociation. We have found that agreement with experiment can be reached only with dissociation parameters that are strictly concentration independent. This has led us to the conclusion that on-chain dissociation is the dominant process in PPPV blends. Conwell’s interpretation in terms of interchain dissociation would imply that the formation of indirect excitons is independent of the concentration of PPPV. However, even in the presence of phase segregation, complete independence over the full range of concentrations seems very unlikely.

Finally, we stress that our model of on-chain dissociation cannot only quantitatively describe the concentration dependence of field-induced PL quenching in PPPV blends, but the time dependence of the quenching as well. Although alternative explanations, like phase segregation, cannot be excluded, this remains a strong indication for the validity of our model.

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