Claims:

1. A process for the production of the poly (arylene ether ketone)s polymer materials (PEK, PEEK) comprising the steps of mixing of organic monomers and bases with or without of phase transfer catalysts in a mixed solvent system at elevated temperature for a time duration.
2. A process as claimed in claim 1, wherein the compatible solvent is diphenyl sulfone (DPS) and dibenzyl toluene.
3. A process as claimed in claim 1 wherein the compatible reaction temperature for reaction is in the range of about 150 $^{o}$C to 340 $^{o}$C.
4. A process as claimed in claim 1 wherein the compatible the reaction time duration is in the range of about 5 to 25 hours.
5. A process as claimed in claim 1 wherein the method further comprise the steps of collection of products by filtration at elevated temperature and washing.
6. A process as claimed in claim 5 wherein the compatible processing temperature for filtration/collection is in the range of about 50 $^{o}$C to 170 $^{o}$C.
7. A process as claimed in claim 5 wherein the compatible washing solvent is toluene.
8. A process as claimed in claim 1 wherein the compatible phase transfer catalyst is phosphoniums, ammoniums or crown ethers.
9. A process as claimed in claim 8 wherein the compatible phase transfer catalyst molar ratio is in the range of about 0 to 10%.