

Resumo do trabalho

1. Identificação do Trabalho	
Título original do projeto	Desenvolvimento de protótipo para síntese verde de nanotubos de carbono utilizando poliestireno reciclado.
Edital do projeto de pesquisa	02/2020/PROPII
Título para caderno de resumos	Síntese verde de nanotubos de carbono através do método de microondas: uma revisão da literatura
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Palavras-chaves	Nanotecnologia, eco amigável, redução de custos.

2. Resumo

Desde que foram descobertos, os nanotubos de carbono têm despertado o interesse de muitos pesquisadores devido às suas propriedades físicas, químicas e eletrônicas que possibilitam sua aplicação nas mais diversas áreas de conhecimento. Com o desenvolvimento de tecnologias que permitem a observação e o estudo da matéria em escala nanométrica, diversas áreas de pesquisa partiram em busca de materiais inovadores. Assim, este trabalho tem o objetivo de levantar o quadro das atuais pesquisas no que diz respeito aos nanotubos de carbono e seus métodos, com foco na síntese por microondas e seus resultados. A metodologia foi realizada através de pesquisas em artigos científicos, em bases de dados como a ScienceDirect, SpringerLink, SciELO, entre outros, onde obteve-se informações de extrema relevância. No que diz respeito aos resultados, através das pesquisas foi possível concluir que o método de síntese através de microondas é considerado viável quando comparado aos outros métodos tradicionais, pelo fato de possuir custos reduzidos, por exigir menos equipamentos sofisticados e ser realizado em um menor período de tempo. Os nanotubos de carbono obtidos através do método de microondas são os de parede múltipla (NTPM), os quais se classificam assim por possuírem duas ou mais camadas simples de cilindros coaxiais. Contudo, ainda há um longo caminho a percorrer até que os chamados métodos de síntese verde atinjam valores competitivos de mercado, visto a falta de estudos relacionados à implementação em escala industrial e um maior controle do crescimento dos tubos durante a síntese, garantindo a qualidade do produto final.

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