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The effects of silicon and aluminum content in copper on the growth of CVD graphene RICHARD PINER, ALVIN LEE, XIAOHAN WANG, C. GRANT WILLSON, CARL MAGNUSON, HARRY CHOU, Univeristy of Texas at Austin — All commercially available copper foils suitable for CVD graphene growth contain trace impurities, with silicon and aluminum being among the most prominent. Here, the presence of these trace elements near the copper surface from a large number of suppliers was quantified via EDS. The differing amounts of silicon and aluminum are shown to have a quantifiable effect on the quality of graphene grown on the foils based on graphene domain size, ad-layer density, and structural defects density. Results of these studies will be presented along with strategies to counteract the deleterious effects of copper foils' trace element content on graphene growth.

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