Listener & player evaluations of violins made from composites

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For this study, six prototype violins, differing only by the material of the top plate, were manufactured in a controlled laboratory setting. The six prototype violins were judged by experienced listeners in two double-blind experiments and by players in a different double-blind experiment. In contrast to popular opinion that violins made from carbon have or lack a specific sound quality, the study provides insights in the diverse sounds and timbres violins from fiber-reinforced polymers can create. It allows an investigation of the links between the perception and the variations in material properties of the soundboards. Additionally, as neither players nor listeners are acquainted with these instruments, these results provide an interesting view on what type of qualities of violin-like sounds are preferred by listeners and players.