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Abstract: A new sildenafil analogue was found to have been added illegally to a dietary supplement marketed for the enhancement of sexual function. The structure was determined as 5-(2-ethoxy-5-{{[4-(3,5-dimethyl)piperazin-1-yl]-acetyl} phenyl)-1,6-dihydro-1-methyl-3-propyl-7H-pyrazolo [4,3-d]pyrimidin-7-one. Owing to the inclusion of a dimethyl group in acetildenafil, the detected compound was called dimethylacetildenafil. The sample was purified with column chromatography. The IR, LC/MS (ESI), and completely assigned