

Supporting Information

Metal-free oxidative hydrophosphinylation of 1,7-enynes

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Chemical structure of compound 10 is shown above the spectrum. The structure is a 1,2,3,4-tetrahydronaphthalene derivative with a sulfonamide group at position 1, a methyl group at position 2, and a phosphine oxide group at position 3. The phosphine oxide group is a diphenylphosphine oxide. The spectrum shows peaks from 0 to 8 ppm. Aromatic signals are between 7.0 and 7.8 ppm. A singlet at ~2.6 ppm (1H) and a doublet at ~2.3 ppm (2H) are assigned to the phosphine oxide group. A singlet at ~1.1 ppm (3H) is assigned to the methyl group. Integration values are shown below the peaks: 2.00, 5.99, 9.03, 7.04, 1.06, 1.01, 1.02, and 3.02.

Chemical structure of compound 10: CC(C)(C1=CC=CC=C1)C(=O)N(C2=CC=CC=C2)C(=C3C=CC(=C3)C=C4C=CC(=C4)C=C5C=CC(=C5)C=C6C=CC(=C6)C=C7C=CC(=C7)C=C8C=CC(=C8)C=C9C=CC(=C9)C=C10C=CC(=C10)C=C11C=CC(=C11)C=C12C=CC(=C12)C=C13C=CC(=C13)C=C14C=CC(=C14)C=C15C=CC(=C15)C=C16C=CC(=C16)C=C17C=CC(=C17)C=C18C=CC(=C18)C=C19C=CC(=C19)C=C20C=CC(=C20)C=C21C=CC(=C21)C=C22C=CC(=C22)C=C23C=CC(=C23)C=C24C=CC(=C24)C=C25C=CC(=C25)C=C26C=CC(=C26)C=C27C=CC(=C27)C=C28C=CC(=C28)C=C29C=CC(=C29)C=C30C=CC(=C30)C=C31C=CC(=C31)C=C32C=CC(=C32)C=C33C=CC(=C33)C=C34C=CC(=C34)C=C35C=CC(=C35)C=C36C=CC(=C36)C=C37C=CC(=C37)C=C38C=CC(=C38)C=C39C=CC(=C39)C=C40C=CC(=C40)C=C41C=CC(=C41)C=C42C=CC(=C42)C=C43C=CC(=C43)C=C44C=CC(=C44)C=C45C=CC(=C45)C=C46C=CC(=C46)C=C47C=CC(=C47)C=C48C=CC(=C48)C=C49C=CC(=C49)C=C50C=CC(=C50)C=C51C=CC(=C51)C=C52C=CC(=C52)C=C53C=CC(=C53)C=C54C=CC(=C54)C=C55C=CC(=C55)C=C56C=CC(=C56)C=C57C=CC(=C57)C=C58C=CC(=C58)C=C59C=CC(=C59)C=C60C=CC(=C60)C=C61C=CC(=C61)C=C62C=CC(=C62)C=C63C=CC(=C63)C=C64C=CC(=C64)C=C65C=CC(=C65)C=C66C=CC(=C66)C=C67C=CC(=C67)C=C68C=CC(=C68)C=C69C=CC(=C69)C=C70C=CC(=C70)C=C71C=CC(=C71)C=C72C=CC(=C72)C=C73C=CC(=C73)C=C74C=CC(=C74)C=C75C=CC(=C75)C=C76C=CC(=C76)C=C77C=CC(=C77)C=C78C=CC(=C78)C=C79C=CC(=C79)C=C80C=CC(=C80)C=C81C=CC(=C81)C=C82C=CC(=C82)C=C83C=CC(=C83)C=C84C=CC(=C84)C=C85C=CC(=C85)C=C86C=CC(=C86)C=C87C=CC(=C87)C=C88C=CC(=C88)C=C89C=CC(=C89)C=C90C=CC(=C90)C=C91C=CC(=C91)C=C92C=CC(=C92)C=C93C=CC(=C93)C=C94C=CC(=C94)C=C95C=CC(=C95)C=C96C=CC(=C96)C=C97C=CC(=C97)C=C98C=CC(=C98)C=C99C=CC(=C99)C=C100C=CC(=C100)C=C101C=CC(=C101)C=C102C=CC(=C102)C=C103C=CC(=C103)C=C104C=CC(=C104)C=C105C=CC(=C105)C=C106C=CC(=C106)C=C107C=CC(=C107)C=C108C=CC(=C108)C=C109C=CC(=C109)C=C110C=CC(=C110)C=C111C=CC(=C111)C=C112C=CC(=C112)C=C113C=CC(=C113)C=C114C=CC(=C114)C=C115C=CC(=C115)C=C116C=CC(=C116)C=C117C=CC(=C117)C=C118C=CC(=C118)C=C119C=CC(=C119)C=C120C=CC(=C120)C=C121C=CC(=C121)C=C122C=CC(=C122)C=C123C=CC(=C123)C=C124C=CC(=C124)C=C125C=CC(=C125)C=C126C=CC(=C126)C=C127C=CC(=C127)C=C128C=CC(=C128)C=C129C=CC(=C129)C=C130C=CC(=C130)C=C131C=CC(=C131)C=C132C=CC(=C132)C=C133C=CC(=C133)C=C134C=CC(=C134)C=C135C=CC(=C135)C=C136C=CC(=C136)C=C137C=CC(=C137)C=C138C=CC(=C138)C=C139C=CC(=C139)C=C140C=CC(=C140)C=C141C=CC(=C141)C=C142C=CC(=C142)C=C143C=CC(=C143)C=C144C=CC(=C144)C=C145C=CC(=C145)C=C146C=CC(=C146)C=C147C=CC(=C147)C=C148C=CC(=C148)C=C149C=CC(=C149)C=C150C=CC(=C150)C=C151C=CC(=C151)C=C152C=CC(=C152)C=C153C=CC(=C153)C=C154C=CC(=C154)C=C155C=CC(=C155)C=C156C=CC(=C156)C=C157C=CC(=C157)C=C158C=CC(=C158)C=C159C=CC(=C159)C=C160C=CC(=C160)C=C161C=CC(=C161)C=C162C=CC(=C162)C=C163C=CC(=C163)C=C164C=CC(=C164)C=C165C=CC(=C165)C=C166C=CC(=C166)C=C167C=CC(=C167)C=C168C=CC(=C168)C=C169C=CC(=C169)C=C170C=CC(=C170)C=C171C=CC(=C171)C=C172C=CC(=C172)C=C173C=CC(=C173)C=C174C=CC(=C174)C=C175C=CC(=C175)C=C176C=CC(=C176)C=C177C=CC(=C177)C=C178C=CC(=C178)C=C179C=CC(=C179)C=C180C=CC(=C180)C=C181C=CC(=C181)C=C182C=CC(=C182)C=C183C=CC(=C183)C=C184C=CC(=C184)C=C185C=CC(=C185)C=C186C=CC(=C186)C=C187C=CC(=C187)C=C188C=CC(=C188)C=C189C=CC(=C189)C=C190C=CC(=C190)C=C191C=CC(=C191)C=C192C=CC(=C192)C=C193C=CC(=C193)C=C194C=CC(=C194)C=C195C=CC(=C195)C=C196C=CC(=C196)C=C197C=CC(=C197)C=C198C=CC(=C198)C=C199C=CC(=C199)C=C200C=CC(=C200)C=C201C=CC(=C201)C=C202C=CC(=C202)C=C203C=CC(=C203)C=C204C=CC(=C204)C=C205C=CC(=C205)C=C206C=CC(=C206)C=C207C=CC(=C207)C=C208C=CC(=C208)C=C209C=CC(=C209)C=C210C=CC(=C210)C=C211C=CC(=C211)C=C212C=CC(=C212)C=C213C=CC(=C213)C=C214C=CC(=C214)C=C215C=CC(=C215)C=C216C=CC(=C216)C=C217C=CC(=C217)C=C218C=CC(=C218)C=C219C=CC(=C219)C=C220C=CC(=C220)C=C221C=CC(=C221)C=C222C=CC(=C222)C=C223C=CC(=C223)C=C224C=CC(=C224)C=C225C=CC(=C225)C=C226C=CC(=C226)C=C227C=CC(=C227)C=C228C=CC(=C228)C=C229C=CC(=C229)C=C230C=CC(=C230)C=C231C=CC(=C231)C=C232C=CC(=C232)C=C233C=CC(=C233)C=C234C=CC(=C234)C=C235C=CC(=C235)C=C236C=CC(=C236)C=C237C=CC(=C237)C=C238C=CC(=C238)C=C239C=CC(=C239)C=C240C=CC(=C240)C=C241C=CC(=C241)C=C242C=CC(=C242)C=C243C=CC(=C243)C=C244C=CC(=C244)C=C245C=CC(=C245)C=C246C=CC(=C246)C=C247C=CC(=C247)C=C248C=CC(=C248)C=C249C=CC(=C249)C=C250C=CC(=C250)C=C251C=CC(=C251)C=C252C=CC(=C252)C=C253C=CC(=C253)C=C254C=CC(=C254)C=C255C=CC(=C255)C=C256C=CC(=C256)C=C257C=CC(=C257)C=C258C=CC(=C258)C=C259C=CC(=C259)C=C260C=CC(=C260)C=C261C=CC(=C261)C=C262C=CC(=C262)C=C263C=CC(=C263)C=C264C=CC(=C264)C=C265C=CC(=C265)C=C266C=CC(=C266)C=C267C=CC(=C267)C=C268C=CC(=C268)C=C269C=CC(=C269)C=C270C=CC(=C270)C=C271C=CC(=C271)C=C272C=CC(=C272)C=C273C=CC(=C273)C=C274C=CC(=C274)C=C275C=CC(=C275)C=C276C=CC(=C276)C=C277C=CC(=C277)C=C278C=CC(=C278)C=C279C=CC(=C279)C=C280C=CC(=C280)C=C281C=CC(=C281)C=C282C=CC(=C282)C=C283C=CC

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