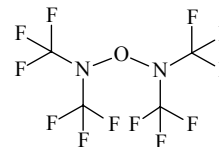
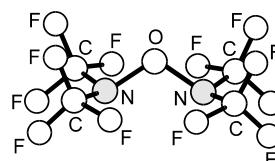


480  
ED $\text{C}_4\text{F}_{12}\text{N}_2\text{O}$ *N,N'*-Oxybis[1,1,1-trifluoro-*N*-(trifluoromethyl)methanamine]  
Perfluoro(2,4-dimethyl-3-oxa-2,4-diazapentane)essentially  $\text{C}_{2v}$ 

$r^a$	$\text{\AA}^b$	$\theta^a$	$\text{deg}^b$
N–O	1.462(8)	N–O–N	105.2(26)
N–C	1.435(4)	C–N–C	117.9(12)
C–F	1.323(2)	O–N–C	109.3(8)
		F–C–F	109.3(2)
		tilt( $\text{CF}_3$ ) <sup>c</sup>	2.7(11)
		$\tau(\text{CF}_3)$ <sup>d</sup>	1.8(23)



Local  $\text{C}_{3v}$  symmetry was assumed for the  $\text{CF}_3$  groups.  
The nozzle temperature was 15 °C.



<sup>a</sup>) Unidentified, possibly  $r_a$  and  $\theta_a$ .

<sup>b</sup>) Three times the estimated standard errors.

<sup>c</sup>) Tilt angle in the CNC plane between the  $\text{C}_3$  axis and the vector along N–C, defined positive when the groups are bent away from each other.

<sup>d</sup>) Torsional angle of the  $\text{CF}_3$  group about the N–C bond;  $\tau = 0^\circ$  when the  $\text{CF}_3$  group is exactly staggered with respect to the opposite N–C bond. The mutual direction ( $\text{C}_2$  or  $\text{C}_{2v}$  overall symmetry) could not be determined, but this angle was essentially  $0^\circ$ .

Reinemann, S., Minkwitz, R., Oberhammer, H.: Angew. Chem. **109** (1997) 1579; Angew. Chem., Int. Ed. Engl. **36** (1997) 1518.