$d \left( f_{12} dx^{1} \wedge dx^{2} + f_{13} dx^{1} \wedge dx^{3} + f_{14} dx^{1} \wedge dx^{4} \right)$   $+ f_{23} dx^{2} \wedge dx^{3} + f_{24} dx^{2} \wedge dx^{4} + f_{34} dx^{3} \wedge dx^{4} \right)$ 

=  $df_{12} \wedge d\alpha' \wedge d\alpha' + df_{13} \wedge d\alpha' \wedge d\alpha' + df_{14} \wedge d\alpha' \wedge d\alpha' + df_{23} \wedge d\alpha'' \wedge d\alpha'' + df_{24} \wedge d\alpha'' \wedge d\alpha'' + df_{34} \wedge d\alpha''$